WITH GA
MacWEEK
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First CL/1 modules give Mac boost up corporate ladder

By John Battelle

Cupertino, Calif. — After a long and sometimes bumpy ride through acquisition, development and unforeseen legal roadblocks, Apple last week announced delivery of the first two portions of its CL/1 client/server database access language.

CL/1 Ships	
Ship date	Dec. 11
Pricing	VAX/VMS server: $5,000 Developer's Toolkit: $695
Support	90 days free phone support
Distribution	APDA

The company also said that AppleTalk for VMS 2.1, which will incorporate support for AppleTalk Phase 2, will ship in the first quarter of next year.

Apple acquired CL/1, short for Connectivity Language/1, with its purchase of Network Innovations Corp. in March 1988. A superset of ANSI-standard SQL, CL/1 gives the Macintosh access to data residing in most popular host-based databases through one application programming interface.

"CL/1 brought me from seeing the Mac as a stand-alone publish-

See CL/1, Page 10

Multimedia: It's not just for Apple anymore

The 'M' word's in vogue at IBM, too

By Dan Ruby and Jim Forbes

Las Vegas — Eighteen months since Apple began promoting its vision of multimedia, the company is facing a significant challenge from its primary competitor in the personal computer business, IBM.

NEWS ANALYSIS

IBM's showing at last month's Comdex trade show in Las Vegas left no doubt that it intends to be a major player in the emerging multimedia market.

IBM Senior Vice President George Conrades gave multimedia a ringing endorsement in a keynote address that he punctuated with rim shots on an electronic drum set. In its booth, IBM prominently featured multimedia development tools.

"IBM is confident of its multimedia strategy. It's hungry," said Peter Black, president of Xiphias, who announced at the show that his company would bring its previ-

See IBM multimedia, Page 8

Portable to get serial port fix early next year

By Raines Cohen

Cupertino, Calif. — Apple last week acknowledged a minor glitch with its new Macintosh Portable and announced that it will soon distribute a new Startup document (INIT) designed to solve the problem.

Several Macintosh developers and a few users of the Macintosh Portable have reported that the new machine behaves erratically when trying to communicate with certain peripherals via the serial ports.

According to Wayne Westly, Macintosh Portable product manager at Apple, the new INIT will be released "early next year." Future system software

See Portable, Page 9

Happy Mac Holidays

This is MacWEEK's last issue of the year. We will return Jan. 9 with a special report looking back at the highlights of 1989 and ahead to the future of Macintosh computing in the 1990s.

Apple readies System 7.0 specs

Some features will miss first release

By Raines Cohen

Cupertino, Calif. — Apple is expected to announce this month its plans for release of System 7.0, the most significant and intensely anticipated update to the Mac's system software since the machine's introduction five years ago. Several of the technologies expected eventually in the new operating system, however, will not be included in its initial release, sources said.

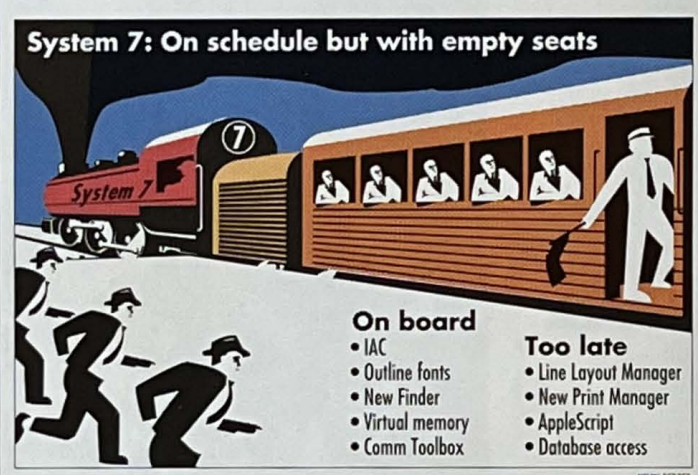
Features likely to miss the initial release, sources said, are the new print architecture, the Line Layout Manager, AppleScript and possibly Database Access Manager. Apple reportedly decided to postpone release of these elements of the new system in hopes of completing a version for release to end users by late spring.

Features expected to be included are scalable outline font technology, database access, a new Finder, hooks for Interapplication Communications (IAC). The Communications Toolbox and 32-bit QuickDraw are also scheduled to be rolled into the first release.

Apple outlined the "core technologies" it intends to incorporate into the system at the company's Worldwide Developer's Conference in May (see MacWEEK, May 9. It has never said, however, that all those features would be part of the first release.

At a seminar on System 7.0 at the Macintosh/LA conference in Long Beach, Calif., earlier this month, Chris Espinosa, system software marketing manager for

See System 7.0, Page 9



KEVIN BERGER

Verdict still out on Free Trial Run promo

By Connie Guglielmo and Pamela Pfiffner

Cupertino, Calif. — Although fewer than three weeks remain in Apple's "Free Trial Run or Cash Back" promotion, dealers said it's still too early to tell how successful the holiday offer will prove to be.

More than 75 percent of Apple's nearly 2,000 authorized dealers are involved in the promotion, which runs until Dec. 31, according to Apple spokeswoman Brooke Cohan.

The promotion, which started Oct. 14, offers qualified customers who buy Apple IIGS and some Mac systems a choice of two plans: either an option to return the hardware between Jan. 1 and Jan. 15 or $150 to $300 in rebates on Apple peripherals (see MacWEEK, Oct. 24).

Although Apple won't have sales figures until the end of January, Cohan said response from the Apple sales force has been positive. "They've had some really good wins because of the free trial-run option, where they were able to say to a customer, 'Go check this out and see for yourself.' "

But while most dealers said the rebate program has helped sell customers on the Mac, they expressed mixed feelings about the trial-run program.

Chris Steen, an account execu-

See Test Drive, Page 10

LATE NEWS

TOPS update solves Word 4 problem

Alameda, Calif. — TOPS last week announced a new version of its TOPS Macintosh networking software that fixes a compatibility problem with Microsoft Word 4.0. The bug caused Word 4.0 files to be misplaced or saved as temporary files, according to TOPS. The update, Version 2.1a, is available free to TOPS users. □

European INIT targets new WDEF virus

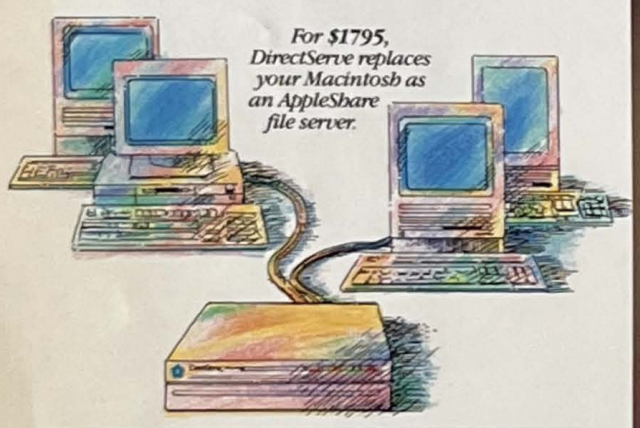
Evanston, Ill. — Three Belgian programmers have produced an INIT (Startup document) called Eradicator! to detect and eliminate WDEF, a new Mac virus that eludes most previous anti-virus software (see story, Page 3). In preliminary tests carried out by Mac virus experts, the INIT appeared to be effective on the Mac II and SE/30 but caused crashes on 68000 machines. Efforts to update it were under way at press time. □

NEWSPAPER SECOND CLASS

Announcing The First Alternative AppleShare File Server.

There it sits... your Macintosh.® Alone, tied to your network — utilized at only a fraction of its capability... It's your dedicated file server — a painful but necessary investment...

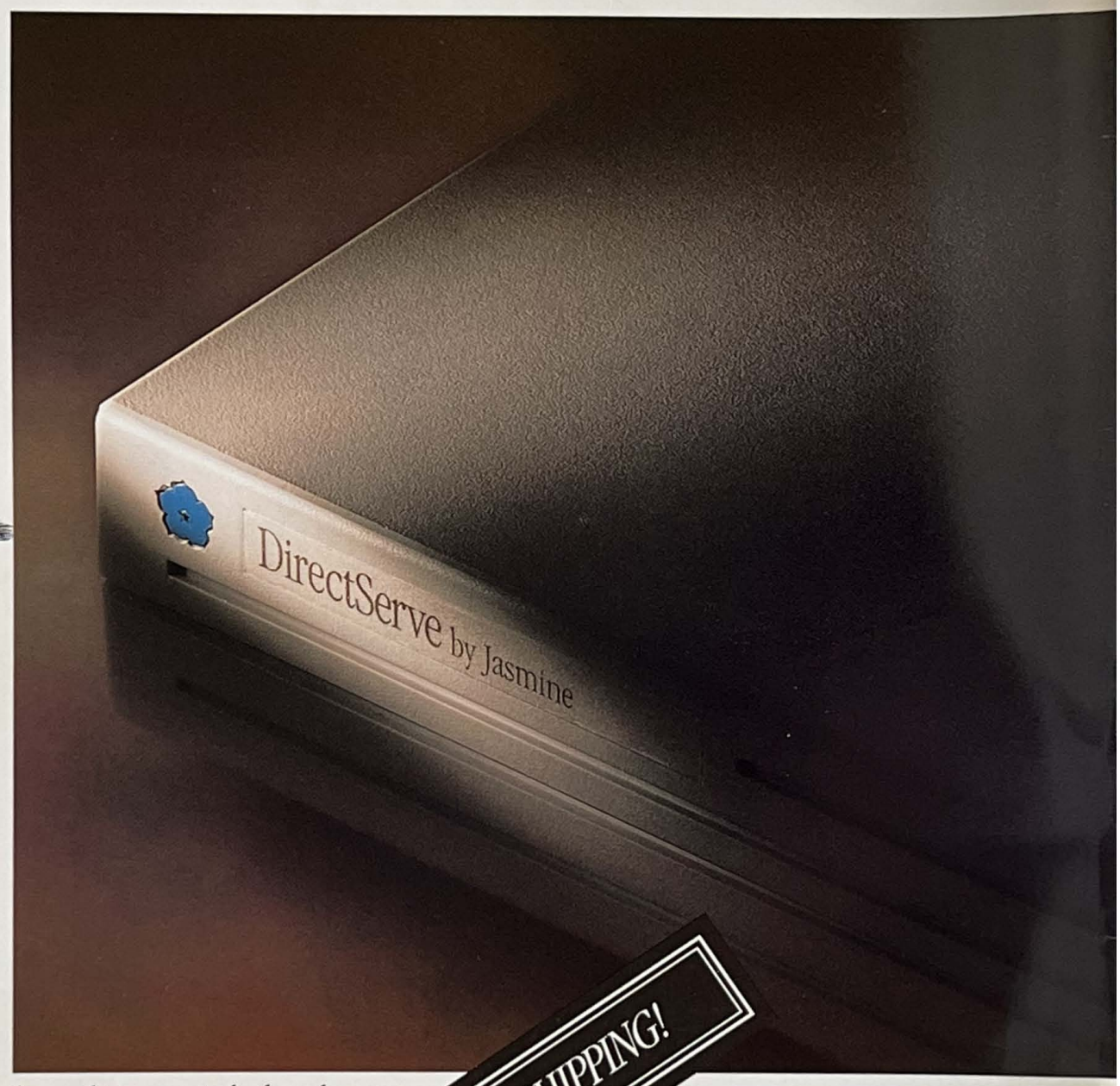
Now you can liberate that Macintosh and put it back to work as a full purpose computer. Jasmine is pleased to introduce DirectServe,™ the industry's first dedicated AppleShare®-compatible file server.



For $1795, DirectServe replaces your Macintosh as an AppleShare file server.

Jasmine DirectServe	$1795	Macintosh Plus	$1799	Macintosh IIcx	$4669
Server Software Included	$ 000	AppleShare	$ 799	AppleShare	$ 799
	$1795		$2598		$5468

Add it all up: Jasmine DirectServe delivers Macintosh IIcx performance, for less than the cost of a Mac Plus.



NOW SHIPPING!

DirectServe is a combination of hardware and software that was designed specifically to be a high-performance, low-cost file server. Its Motorola 68010 processor and 1 MB of cache memory (expandable to 8 MB) is dedicated to fast data transfer. By eliminating the need to support a keyboard, mouse, and monitor, DirectServe provides performance comparable to a Macintosh IIcx — at a price that's less than a Mac Plus with AppleShare software!

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New WDEF virus evades detection, spreads quickly

By Henry Norr

Evanston, Ill. — Another week, another virus, but this week's virus may be the most troublesome Mac infection this year.

While other recent viruses have been simple clones of nVIR, the latest one, discovered at Northwestern University here, and in Belgium, Texas and California, is a brand-new species. Known as WDEF after the resource it creates, the virus infects the invisible Desktop file the Finder automatically creates on Mac disks. According to John Norstad, author of the free Disinfectant utility, WDEF escapes detection by existing anti-virus Startup documents (INITs), including CE Software's Vaccine 1.0.1, and by most diagnosis and repair programs.

While the virus does not intentionally damage files, Norstad said, a bug in its code causes the Mac IIci to crash when windows are moved. Frequent crashes on infected Mac IIcx machines and severe performance problems on AppleShare servers with the virus have also been reported, and Norstad said other bugs in the virus could cause additional problems.

Because WDEF eludes current protection programs and travels at the mere insertion of an infected floppy, in contrast to previous Mac viruses that spread when a contaminated application is launched, the new contagion could spread quickly, virus trackers said.

The virus, however, can be removed easily by rebuilding the Desktop file (hold down the Command and Option keys while booting or inserting a floppy).

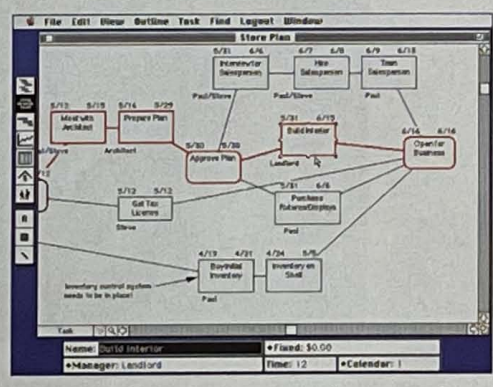
VirusDetective Version 3.1, a shareware desk accessory developed by Jeff Shulman, is apparently the only virus-fighting tool capable of detecting and removing the new infection. The program and instructions for using it against WDEF are available from on-line services.

Developers of other anti-virus programs moved quickly to respond to the new threat, however. Norstad said he planned a new version of Disinfectant. Symantec, which had just announced shipment of SAM Version 1.2 to combat the Jude variant of nVIR, said it would instead ship Version 1.3, which also will detect, prevent and repair WDEF infections. HJC Software said it, too, has developed an antidote and will ship Version 2.3 of Virex early this week, as soon as it completes an extra testing cycle required for the new virus. □

KeyPlan helps novices manage

By Henry Norr

Scottsdale, Ariz. — Symmetry Software Corp. last week began shipping KeyPlan, an Australian-developed program that promises to bring project management on the Mac to a new level of ease of use.



Symmetry's KeyPlan project management software, created especially for the novice manager, lets users input, order, link and then display items as PERT diagrams, time lines, lists and graphs.

The $395 program, aimed at managers who are not trained in formal project management techniques, starts with an outline in which the user lists items and adds notes. Selected items are then converted to tasks and milestones that are ordered, linked and displayed in a PERT network diagram.

KeyPlan automatically generates an interactive time-line chart and a list view where tasks can be sorted and selected for inclusion in custom reports. The program's graph view offers what Symmetry called presentation-quality scattergrams and area, line and bar charts.

All views are integrated, so data can be entered and modifications made at any time. Users can control color and fonts, add annotations and save formats as templates.

Steve Chazin, an engineer at Raytheon in Tewksbury, Mass., said he asked to become a KeyPlan beta tester after being assigned to manage development of a radome for a new missile. "I looked at [Claris'] MacProject," he said, "but this one seemed a lot easier to set up and more intuitive."

"It's got an awful lot of brains behind each of its functions," said Fred Gold, a management and training consultant and president of the Gold Management Institute in Los Angeles. "The interface is simple, elegant and logical."

Symmetry is at 8603 E. Royal Palm Road, Suite 110, Scottsdale, Ariz. 85258; (602) 998-9106. □

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MediaTracks synchronizes sound to screen clips

By Connie Guglielmo

Berkeley, Calif. — Farallon Computing Inc. is developing an enhanced version of ScreenRecorder that provides an easy, low-cost way to create multimedia presentations.

Like ScreenRecorder, MediaTracks lets users graphically record and replay sequences, or "tapes," of user actions and the resulting screen events to create training demos and other presentations.

But MediaTracks, expected to be priced between $250 and $300 and set to ship next spring, also lets users edit the tapes by cutting them into "clips" that can be rearranged and synchronized to digitized sound, according to sources close to Farallon.

"The key thing about it for production purposes is that it establishes an absolute time base so you can sync up sound events to individual clips," said one multimedia developer who has seen the program. "If you didn't have any absolute time code, for instance, such as the SMPTE (Society of Motion Picture and Television Engineers) code used in television, you wouldn't be able to edit and sync up sound and graphic effects to video. Having a synched, playback environment in the Mac is very important to future multimedia development."

Apple has already started work in that area, promising that real-time sequencing — digitizing sound as it occurs and assigning a time code to each sound segment — will be added to the Sound Manager in System 7.0. Once sound has been sequenced in real time, it can be synchronized with graphics and animation. Although MediaTracks will record in only black and white, users will be able to superimpose color graphics saved as PICT files. Additional drawing and text tools can be used for adding comments and objects to clips. Buttons that perform operations — such as starting, stopping, rewinding, pausing and going to other clips — also can be added to clips to create interactive presentations.

Farallon also is expected to offer a stand-alone playback option in MediaTracks so users can play tapes that can launch applications from within other applications, such as HyperCard, Silicon Beach Software's SuperCard and ACIUS Inc.'s 4th Dimension.

Farallon Computing Inc. is at 2201 Dwight Way, Berkeley, Calif. 94704; (415) 849-2331. □

Interapp utility aids graphics edits

By Connie Guglielmo

Palo Alto, Calif. — A brand-new start-up named Salient is readying an Interapplication Communications utility that lets users create and edit graphics from within word processing and desktop publishing programs.

Partner, a $99 program due to ship in early January, works under MultiFinder to simplify the process of moving graphics between publishing programs and graphics programs.

"The old multistep process of creating and editing graphics for publication is replaced by a simple 'select-edit-update sequence,' " said Terrence Morse, who recently co-founded Salient with partner Lloyd Chambers. The two previously worked as programmers at now-defunct Mansfield Systems, which was based here.

Partner installs a new menu in Aldus PageMaker, QuarkXPress or Microsoft Word that lists all supported graphics programs, including MacDraw, MacDraw II, MacPaint 2.0, Adobe Illustrator and Illustrator 88, FullPaint, SuperPaint 2.0, and Canvas 2.0. Selecting one of the programs automatically opens it.

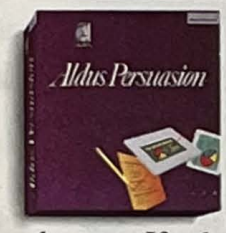
With Partner's Place Graphic command, users can automatically place graphics in the open document, even if the file type is not directly supported by PageMaker, XPress or Word. (Illustrator and Illustrator 88 files, however, can't be placed in Word or MacWrite II.)

By combining graphics into a publishing document, Partner eliminates the need to store separate graphics files. When a graphics application is opened through Partner to edit an image previously placed in a publishing or word processing document, selecting the new utility's Update command will automatically return the user to the text or layout application, with the changes incorporated in the image.

"I use it with PageMaker and Illustrator to import Encapsulated PostScript graphics," said beta-tester Eric Matson, a retail salesman for ComputerWare in San Francisco. "It's great to be able to see what the graphic looks like right on the page. Normally with PageMaker you only see a gray box where the EPS graphic will be."

Partner requires MultiFinder and 2 Mbytes of memory.

Salient is located at 3101 Avalon Court, Palo Alto, Calif. 94306; (415) 852-9567. □



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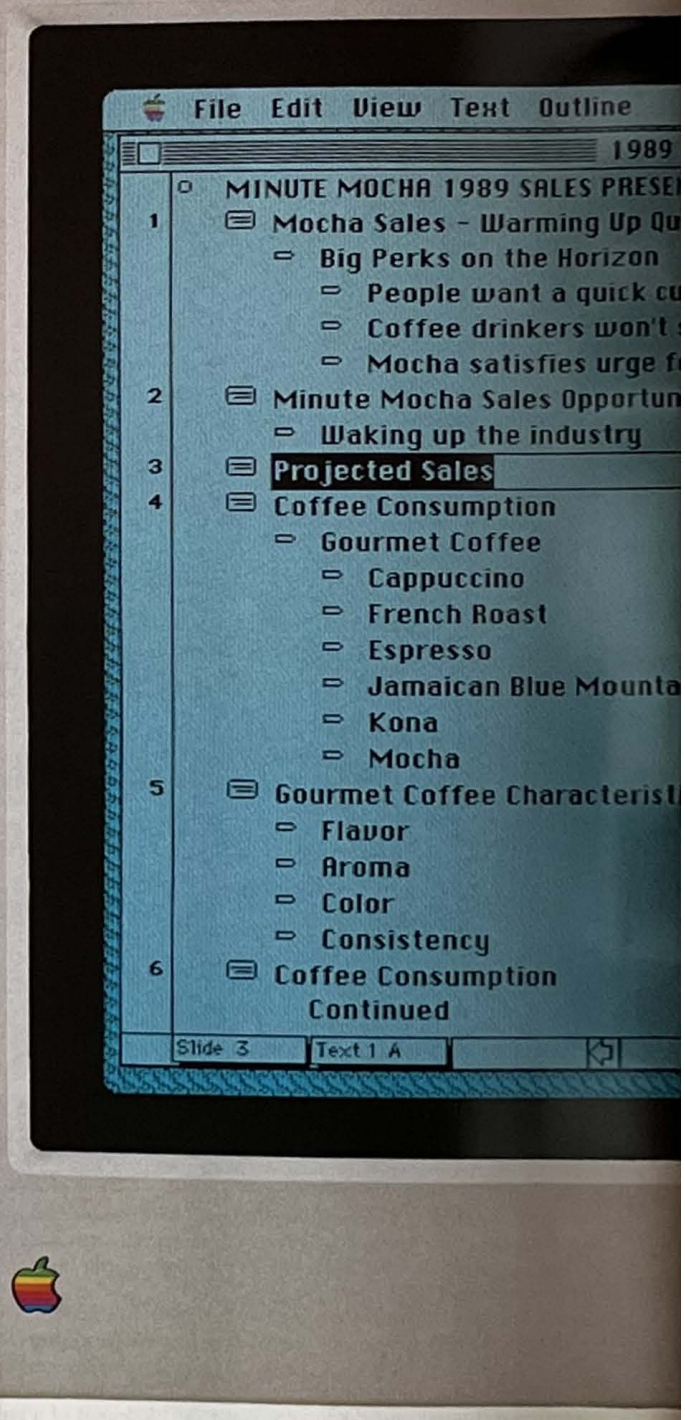

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IPT campaign takes aim at TOPS

By John Battelle

Calabasas, Calif. — Information Presentation Technologies last month introduced an aggressive marketing program targeted at users of TOPS networking software from Alameda, Calif.-based TOPS.

For $49.95 and the return of an original TOPS program disk, IPT will send TOPS users its recently shipped Personal Server Network, serverless networking software capable of connecting Macs, IBM PCs and compatibles, and Unix workstations.

Personal Server Network regularly retails for $189 per node or $999 for 10 users.

While both TOPS and Personal Server Network are distributed networks, IPT differentiates its product by its compliance with AFP (AppleTalk Filing Protocol), Apple's specification for server-based file sharing. Networking products that are AFP-compliant have the same interface to file services as does Apple's own AppleShare server software.

TOPS plans to announce next week that its product is compatible with all AFP applications, sources close to the company said, although it will not take advantage of AFP's interface.

Information Presentation Technologies is located at 5000 North Parkway, Suite 304, P.O. Box 8609, Calabasas, Calif. 91302; (818) 347-7791. □

Xecom to ship line of internal, fax/data modems for the Mac

By Carolyn Said

Milpitas, Calif. — Xecom Inc., a modem manufacturer with a diverse line of internal modems for IBM PC-compatible portables, is charging headlong into the Mac market.

Xecom last week announced two comprehensive lines of internal data and fax/data modems for the Mac, as well as software that lets the modems be shared over an AppleTalk network.

The Xecom line is distinguished by its modular technology. The actual modem on each card is a removable module about the size of a business card, according to David Chase, Xecom director of computer products. Upgrading — from data to fax/data capabilities, for instance — requires only replacement of the module.

▶ TeleLAN, $499 software that resides on the communications server, and NetAim, a $49-per-workstation package that resides on individual client machines, allow sharing of the NewPort modems over AppleTalk/EtherTalk networks.

TeleLAN aids supervision of modem use by logging users, phone numbers called, time of day and other factors, Chase said.

▶ QuadPort II, four internal 2,400-bps modems on a NuBus card priced at $1,499, is designed to serve as a network modem, although any of the NewPort modems can be shared. Up to four QuadPort II cards (five if the video card is disabled) can be plugged into a Mac II. MNP (Microcom Network Protocol) is not available on QuadPort II.

A fax/data version of QuadPort II will be available within two months, Chase said.

▶ The NewPort 2400 modem family includes 2,400-bps internal modems for the Mac II, SE/30, SE and Portable, priced respectively at $349, $349, $329 and $349 and available now. MNP Level 5 data compression and error correction is available for all the modems for $100 extra.

▶ NewPort internal fax/data modems, available for the Mac II, SE/30, SE and Portable, are priced at $899, $899, $799 and $699, respectively. They combine a 9,600-bps Group III fax modem with a 2,400-bps data modem that includes MNP Level 4 error correction.

To ship in the first quarter of 1990, the fax/data modems will be bundled with software that will allow background fax operations with or without MultiFinder, Chase said.

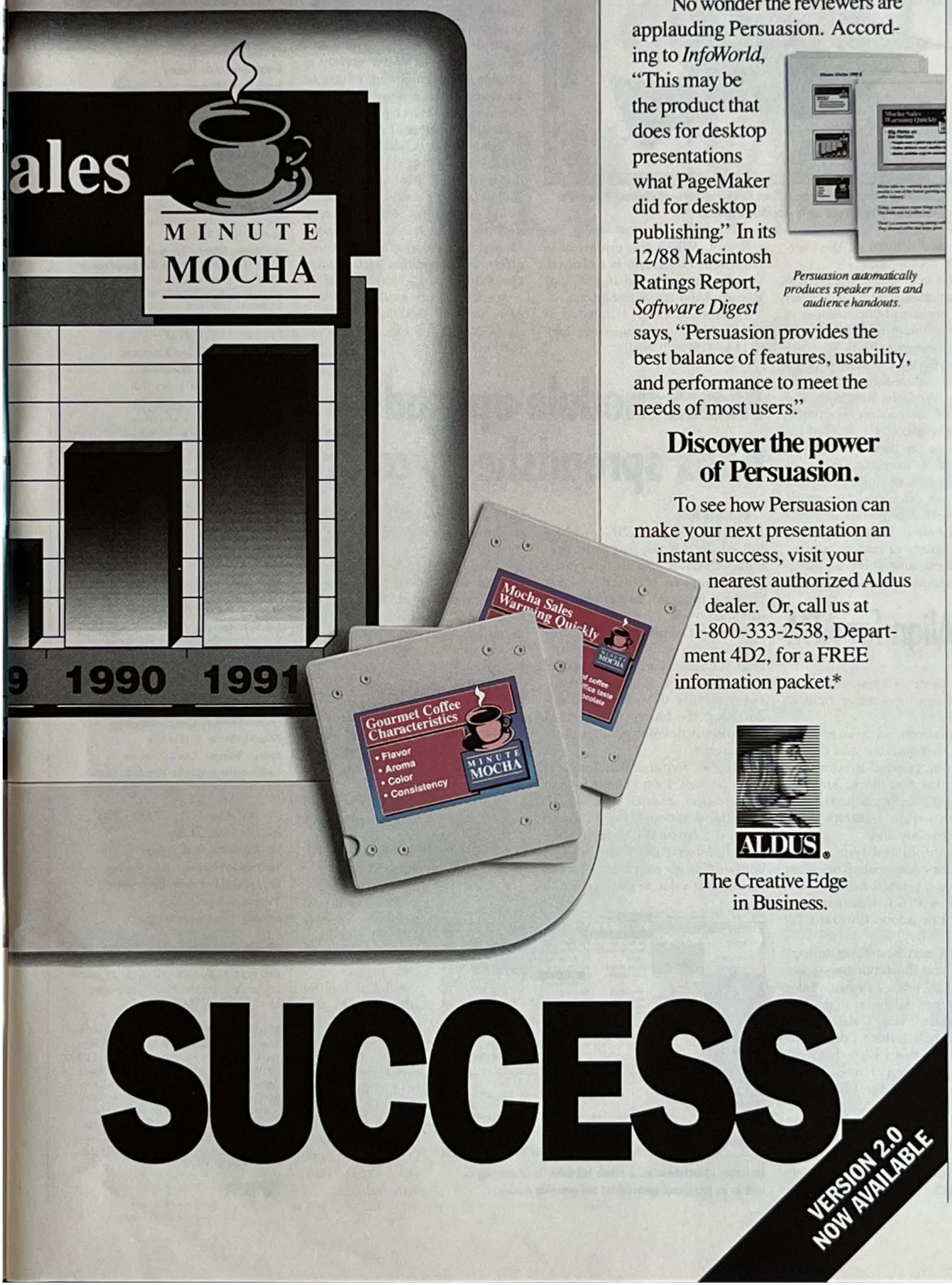
▶ Xecom's MultiAimer Expert software, which assigns communications to either the modem card or one of the Mac's built-in serial ports, comes bundled with all the data and fax/data modems.

The data and fax/data modems for the Mac II and SE/30 include three additional serial ports, while the SE modems include one more port.

The new ports, the Xecom modem, and the Mac's built-in printer and modem ports can all be used simultaneously under MultiFinder, the company said, even before Apple releases its long-promised Communications Toolbox software.

Xecom also offers the FeedThru 2400, a 2,400-bps external modem for all Mac models. Priced at $249, it includes one feedthrough serial port. MNP is not available.

Xecom Inc. is located at 374 Turquoise St., Milpitas, Calif. 95035; (408) 945-6640. □



No wonder the reviewers are applauding Persuasion. According to *InfoWorld*, "This may be the product that does for desktop presentations what PageMaker did for desktop publishing." In its 12/88 Macintosh Ratings Report, *Software Digest* says, "Persuasion provides the best balance of features, usability, and performance to meet the needs of most users."

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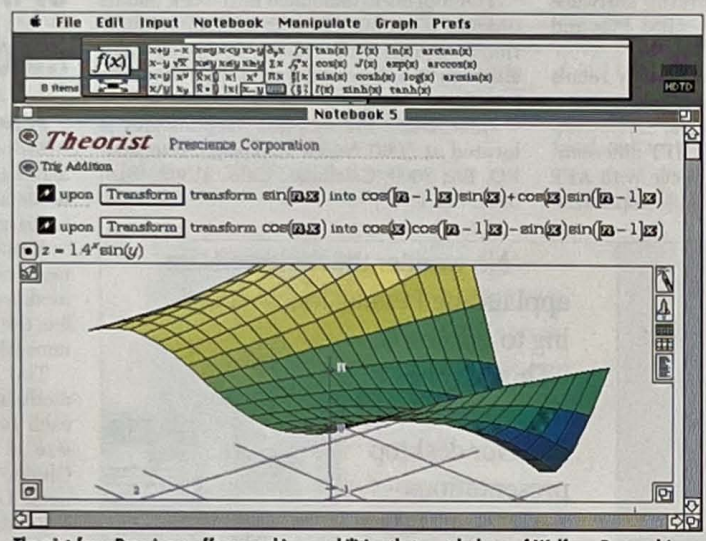
Theorist challenges Mathematica

New program offers simplified interface


File Edit Input Notebook Manipulate Graph Prefs
Notebook 5
Theorist Prescience Corporation
Trig Addition
upon Transform transform sin(a x) into cos(a - 1)x sin(x) + cos(x) sin(a - 1)x
upon Transform transform cos(a x) into cos(x) cos(a - 1)x - sin(x) sin(a - 1)x
z = 14^x sin(y)

Theorist from Prescience offers graphics capabilities that match those of Wolfram Research's Mathematica, according to users, and has a simplified interface.

By Henry Norr

San Francisco — Theorist, a new program that brings click-and-drag algebra to mathematicians, scientists, engineers and students, began shipping last month.

Published by Prescience Corp. (formerly Allan Bonadio Associates), the $379.95 symbolic-algebra system promises to combine a wide range of mathematical functions and slick 2-D and 3-D graphics with a WYSIWYG display and an interface designed to simplify the entry and manipulation of expressions.

"Theorist is a match for (Wolfram Research Corp.'s) Mathematica as far as graphics go, and there's no comparison in terms of interface," said Ray Beausoleil, a physicist at Solidlite Corp. of Redmond, Wash. "I can do things quickly with the mouse or keyboard that would require a whole sequence of commands in Mathematica. It's a remarkable achievement."

Beausoleil also commended Prescience for including two versions, one for 68000-based Macs and another that takes advantage of math coprocessors, in the package.

James Hurley, professor of mathematics at the University of Connecticut at Storrs, said he has ordered copies for the 27 SE/30s in the lab he uses for his calculus course. "If you're going to do high-level research, I don't think Theorist would be of much interest, but for my purposes it offers symbolic manipulation without all the overhead of its competitors."

Theorist follows the logic of traditional algebraic techniques rather than the command-line routines of most other computer algebra programs, the company said. The user enters equations assumed to be true in an outline-format notebook, selecting symbols, functions and operators from on-screen palettes or the keyboard.

Equations can then be simplified, rearranged by dragging subexpressions, manipulated to generate new equations or calculated to numeric answers at 19-digit precision.

Theorist offers 11 graph standard styles, a variety of custom options, 3-D rotation, animation, and temporary simplification to speed redraws. When the equation is modified, the graph is redrawn. Graphs can be saved in PICT or Encapsulated PostScript format.

Prescience Corp. is located at 814 Castro St., San Francisco, Calif. 94114; (415) 282-5864. □

MarkUp gets XPress, HyperCard access

By Henry Norr

Agoura Hills, Calif. — Mainstay last week released an upgrade to MarkUp, its group editing and document review program.

Version 1.02 adds QuarkXPress and HyperCard compatibility to the groupware product, making it possible to post stacks and layouts generated with the Quark program to the program's database. MarkUp lets multiple users overlay comments, editing symbols, and a variety of graphic and highlighting effects on an image of the original document. (See review of MarkUp, Page 64.)

At the Macintosh/LA conference in Long Beach, Calif., last month Mainstay demonstrated a customized version of the program that lets users add and retrieve voice comments in a document under review via a telephone. Mainstay is developing the technology in cooperation with Discussion Systems of La Honda, Calif.

MarkUp costs $495 for a two-user pack and $995 for a five-user pack. A supplementary personal version is $245. □

Emerald City ships TypeAlign for ATM

By Pamela Pfiffner

Menlo Park, Calif. — TypeAlign, a desk accessory for manipulating text created with Adobe Type Manager, is now shipping from Emerald City Software.

The $99.95 program allows ATM users to paste or type text along arcs, freehand curves or lines at any angle.

Special effects, such as rotation, skewing, perspective and distortion, can be created by dragging points on the text block. Any part of the text can be colorized or kerned to within 1/1000th of an em, the company said.

The manipulated type can be pasted into documents from most applications, printed from the DA or saved in PICT, Encapsulated PostScript or Adobe Illustrator 88 formats.

"It's the next best thing to happen to Adobe Illustrator since autotracing," said Russell Brown, senior art director at Adobe Systems Inc. of Mountain View, Calif., and a TypeAlign beta tester. "I did a button yesterday that I kerned in minutes in TypeAlign. I would have spent hours kerning text in a circle in Adobe Illustrator."

TypeAlign is priced at $99.95 and requires ATM, which costs $99.

Emerald City Software is at 1040 Marsh Road, Suite 110, Menlo Park, Calif. 94025; (415) 324-8080. □

For the record

In the Dec. 5 issue, we said that Studiotronics' Colorset has a top resolution of 300 dpi. In fact, Colorset's resolution is only limited by that of the scanner it is used with.

A Nov. 14 article on the Macintosh Construction Forum listed a phone number that was changed as MacWEEK went to press. For information on this newsletter, call (208) 263-3078.

In our Oct. 24 review of FlashTalk and DaynaTalk the charts showing TOPS' performance should have indicated that the tests were run with MultiFinder active. TOPS is three to five times faster in the same tests without MultiFinder.

MacSchedule upgrade adds spreadsheet, color

By Henry Norr

Agoura Hills, Calif. — MacSchedule 2.0, an upgrade that adds full color and an integrated spreadsheet to Mainstay's Gantt charting program, began reaching users last week.

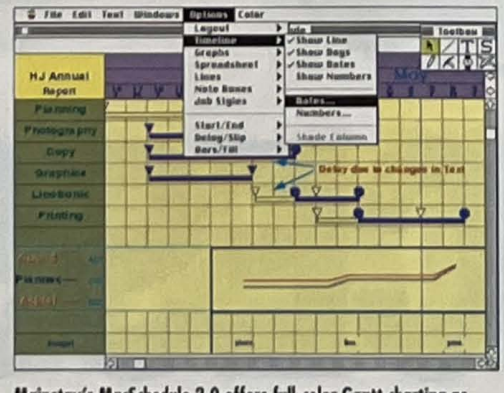
Dennis Grantham, a member of the senior staff at Hughes Aircraft of Canoga Park, Calif., said he has already put the new spreadsheet feature to work in "calendarizing" the budget for the test equipment development project he manages.

"Hughes requires that I submit plans for how I am going to spend my budget month by month over the duration of the project," he said. "Normally, people submit handwritten data to the accounting department, which takes about a day to process on the IBM mainframe. Often we have to go through several iterations to get it right."

Using the MacSchedule spreadsheet directly linked to his project plan, Grantham said, "I can put the whole plan together myself in much less time and make it pretty much come out the way I want it before I submit it."

Financial and resource data in the spreadsheet can be manipulated and graphed on the same page as a schedule, and all schedule objects and windows can be set to any color. Other enhancements in the $245 program include:

- Custom schedule bars.
- Multiple windows, including linked files.
- Stationery files for standardized schedule formats.
- A wall-chart size option that makes it possible to create schedules as large as eight pages by eight pages.
- A line tool for adding lines and arrows anywhere on the schedule.



Mainstay's MacSchedule 2.0 offers full-color Gantt charting as well as an integrated spreadsheet and graphing module.

Upgrades for registered owners, including a new manual, are $30.

Mainstay is located at 5311-B Derry Ave., Agoura Hills, Calif. 91301; (818) 991-6540. □

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MAC WEEK

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IBM multimedia

From Page 1

ously Mac-only CD-ROM applications to PC compatibles.

"Apple may have beaten us to the market with desktop publishing, but we have been doing multimedia for 10 years," said Peter Blakeney, a manager in IBM's Advanced Education Systems Group, bristling at the suggestion that Apple holds a lead in multimedia development.

"Our interest in multimedia is providing solutions, not producing something that merely looks slick," Blakeney said.

IBM's work in multimedia goes at least as far back as 1982, when the company began developing interactive videodisc applications for internal training purposes. It later offered development tools to customers, but the effort was hidden from the mainstream in the company's K-12 marketing group.

It wasn't until early this year that IBM's personal computer operation, the Entry Systems Division, formed a development group and began openly using the "M" word. Today, the company's suite of multimedia products, mostly the fruit of the education group, include:

▶ InfoWindow, a PS/2 system with touch-screen display, videodisc player and authoring software for development and playback of interactive applications.

HANK DELESPINASSE

IBM beat the drums and raised the flags for multimedia at its booth at Comdex/Fall '89 in Las Vegas last month, the beginning of a major push to position itself as the leader in multimedia.

▶ Audio Visual Connection, software that digitizes, enhances, and manages sounds and images in conjunction with audio and visual capture boards for the PS/2.

▶ LinkWay, a hypertext database targeted at educational users.

IBM also has announced that it will support Intel Corp.'s Digital Video Interactive technology for compression and decompression of video images on CD-ROMs. It does not yet offer a navigational front end like HyperCard or the operating system extensions to integrate media types, however.

Analysts expect IBM to address these shortcomings next year when it introduces a dedicated multimedia platform including built-in CD-ROM, a special version of Windows, a HyperCard-like interface, high-resolution color, a digital signal processing chip for audio and 2 Mbytes of memory — all for about $3,000.

"The difference in strategies is that IBM will produce a targeted multimedia machine, while Apple is trying to integrate tools into all its machines," said Nick Arnett, an analyst and president of Multimedia Computing in Santa Clara, Calif.

The multimedia extensions, which will provide the application programming interfaces to combine different media types, are under development by Microsoft Corp. for inclusion in Windows 3.0.

As for the missing HyperCard equivalent, "you can expect to see products that offer comparable functionality for the PC in the coming months," said Rob Glaser, general manager of Microsoft's Multimedia Systems Group.

At least four such products are in the works: Release 2.0 of HyperPad, a character-based hypertext program from Brightbill Roberts of Syracuse, N.Y.; a software construction kit from Asymetrix Corp. of Bellevue, Wash., a company with close ties to Microsoft; a Windows version of Plus from Spinnaker Software of Cambridge, Mass.; and Descartes from Echelon Development, also of Cambridge.

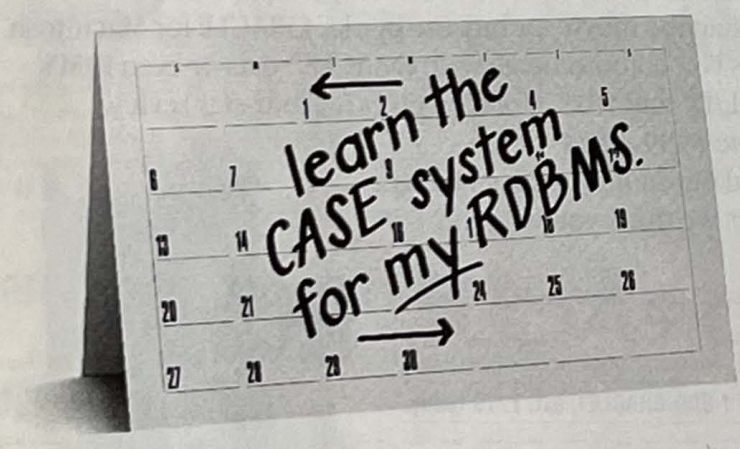
The latter two programs offer the advantage of compatibility with HyperCard stacks. If IBM were to bundle one of them with its upcoming multimedia computer, legal sparks could fly: Apple has applied for a patent on a graphics compression algorithm necessary for translating HyperCard stacks and could attempt to enforce it.

That issue aside, IBM's interest in multimedia has not affected Apple's strategy. But as IBM gains momentum, Apple may have to take notice. "How can Apple go on selling its CD-ROM drive for $1,200 when IBM offers a complete system for $3,000?" Arnett asked.

In a reversal of the two companies' traditional market roles, they may be targeting different markets for multimedia. IBM's products address specific business niches, including training, merchandising and public information, but its real interest may be in driving the technology to the consumer market. Apple seems to believe that business applications will drive the market in the near term. □

4D hits four digits

Cupertino, Calif. — ACIUS Inc. last week began shipping an update to 4th Dimension that corrects several problems and introduces more than 15 new features. The new Version 2.0.10 offers enhancements to the Quick Report Generator, new layout capabilities, additional built-in formatting and data validation options. The program displays the zone, node ID and Chooser name when it detects a conflict in serialization. □



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Upgrade dilemmas face Mac managers

The impending arrival of System 7.0 raises several important issues for Mac users and managers.

▸ **AppleTalk Phase 2.** System 7.0 will run AppleTalk Phase 2, the latest version of Apple's native networking protocols. If an organization is networked with LocalTalk only, Phase 2 won't be an issue, according to Apple officials; System 7.0's AppleTalk drivers will seamlessly replace System 6.0 drivers. If the network includes Ethernet or extended links to an internet or both, then routers, gateways and Macs connected via Ethernet cards must be upgraded to Phase 2. Most vendors, including Apple, have announced or already shipped Phase 2 upgrades to their network products.

If some users on the network are upgraded to System 7.0 while others are not, problems could occur, especially in the absence of a Phase 1-to-Phase 2 network router.

▸ **RAM.** System 7.0 requires a minimum of 2 Mbytes of RAM. Many developers and industry analysts doubt that a Mac running System 7.0 and MultiFinder will be able to run more than one or two applications with just 2 Mbytes of RAM. Additional memory needs can be met by System 7.0's virtual memory, but Mac Pluses and SEs cannot use this new feature.

▸ **Software compatibility.** Apple has stressed to its developers that, to avoid incompatibilities with the new system (particularly with virtual memory and the new system's 32-bit addressing scheme), all software programs must be "32-bit clean." Managers should be prepared to track software programs that do not abide by Apple's warning or have yet to be upgraded. Because System 7.0, like its predecessors, lacks the memory protection capabilities of more advanced multitasking systems, a crash in one application will typically bring down the entire machine.

— By John Battelle

System 7.0

From Page 1

Apple USA, reminded attendees that Apple had promised to release a time line for the new system this fall. Apple officials confirmed last week that the company would meet its self-imposed deadline.

Some of the interapplication communications capabilities Apple promised for System 7 will be present in the initial release, sources said, and application developers will be able to add support for "hot links," or live copy-paste, to programs upgraded for the new system. AppleEvents, the "enabling technology" for user scripting of interactions between applications, will be present, but AppleScript, a high-level interapplication macro language for such scripting, will not become available until later releases of the operating system.

With the postponement of the new print architecture, the range of third-party output options open to Mac users may not grow as quickly as had been hoped. One purpose of the new imaging system is to bring more printer vendors into the Macintosh market by making it easier to write drivers for their products.

The absence of the Layout Manager from the initial release means that kerning and other micropositioning capabilities, especially for non-Roman languages, will still be available only in applications that have their own support for such features.

According to Espinosa, System 7.0 will be distributed in the same way as current system software upgrades, which are available through users groups, on-line services or Apple dealers. □

Portable

From Page 1

releases will incorporate the fix as well, Westly said.

The problem appears to affect only Portable peripherals and software products that interact with the serial ports and use hardware handshaking. So far, it has been detected primarily by developers' in-house testing labs and software beta testers, although end users of some hardware devices have reported difficulties as well.

The main symptom of the glitch is that some peripherals, including the WriteMove printer from GCC Technologies and the forthcoming Diconix M150+ from Kodak, appear to lose contact with the Portable, according to developers.

One developer said last week that Apple had informed his company that a fix would be supplied within 10 days. He said he was told, "You don't need to do anything; it's our problem," he was told.

Other developers pursuing the problem said they had been frustrated by its intermittent, unpredictable nature. □

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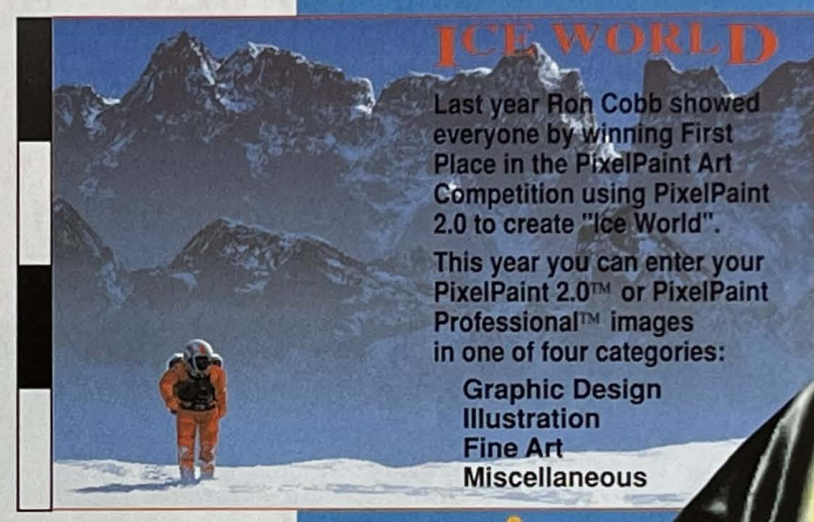

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Frog by Pat Coleman and Ice World by Ron Cobb using PixelPaint 2.0. All others images by Claire Barry using PixelPaint Professional.

Test Drive

From Page 1

tive with Los Angeles-based S.O.S. Computers, said his store doubled its sales of Apple products this quarter, in part because of the special offers. Three out of four customers participating in the promotion have taken Apple up on its test-drive offer, with more than 90 trial units out, he said.

"We don't know if everyone who tries one is going to buy one, but the odds are good," he said, adding that Apple's research predicted returns of 2 percent or less. "Still, I'd like to reserve judgment until Jan. 15 and see that it's not just a free trial return."

"The rebate is a perennial favorite, but the Free Trial Run program isn't working as well," said Walter Manley, president of First Step Computers in Richmond, Va. "I'm not expecting a lot of those sales to stick. I've seen blatant abuses, such as those [customers] who say they'll try it out until deadline, then get a Mac through teacher sales programs."

The Free Trial Run promotion also stipulates that customers qualify for Apple Credit and return the system in the same condition they received it with packaging intact, dealers said.

"Some people balked when they looked at the leasing agreement for the Free Trial Run [program]," said Frank Costa, sales manager of Personal Computer Services Inc. of New York.

Dealers, too, find the paper work for the Free Trial Run excessive. "We only get $100 from Apple if someone decides to return the system," said Christian Hummel, general manager of Computer Connexion in Victorville, Calif. "That isn't enough to cover the time spent with the customer, boxing the system and filling out the paper work."

Dealers face other problems with returns. "For small dealers like us, you have a certain line of cash to work with," Costa said. "We do get paid from Apple, but you have to give the money back Jan. 15. You better sock the money away in order to give it back."

"January is a demoralizing month anyway without having to take a charge back against sales commissions," Manley said.

Yet dealers agree that some kind of Apple promotion is better than none. "Things are a lot better this year since Apple didn't have anything at all last year," Hummel said. □

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CL/1

From Page 1

ing tool to viewing it as a viable workstation in the corporate environment," said Dave Grubman, assistant vice president at American International Marketing Systems in New York. Grubman said he is using CL/1 and third-party products to create an executive information system.

Beginning this week, in-house and commercial developers can order the CL/1 Server for VAX/VMS from the Apple Programmer's & Developer's Association for a $5,000 licensing fee. The server supports several popular VAX databases, including Oracle, Ingres and Rdb.

APDA also is offering the CL/1 Developer's Toolkit for Macintosh, which allows developers to incorporate CL/1's capabilities into commercial applications. The kit will ship this week for $695.

In May, Apple announced its plan to roll the CL/1 client software into forthcoming Mac system software. Since then a troop of third-party developers have announced support for CL/1, and several others have integrated CL/1 support into their products by working with beta versions of the CL/1 client software.

A number of companies, including Access Technology of Natick, Mass., Fairfield Software of Fairfield, Iowa, and Andyne Computing of Kingston, Ontario, offer query-based front ends to CL/1. Others, such as Informix Software of Lenexa, Kan., and Ashton-Tate of Torrance, Calif., have incorporated CL/1 into their business applications.

The server and development kit have been ready for more than a month, according to sources close to Apple, but were held up by a trademark conflict with a provider of mainframe software based on the East Coast. That conflict has been resolved, according to Apple officials.

"The functionality CL/1 provides more than makes up for the delay in shipping," said Gerald Caussade, president of Fairfield Software.

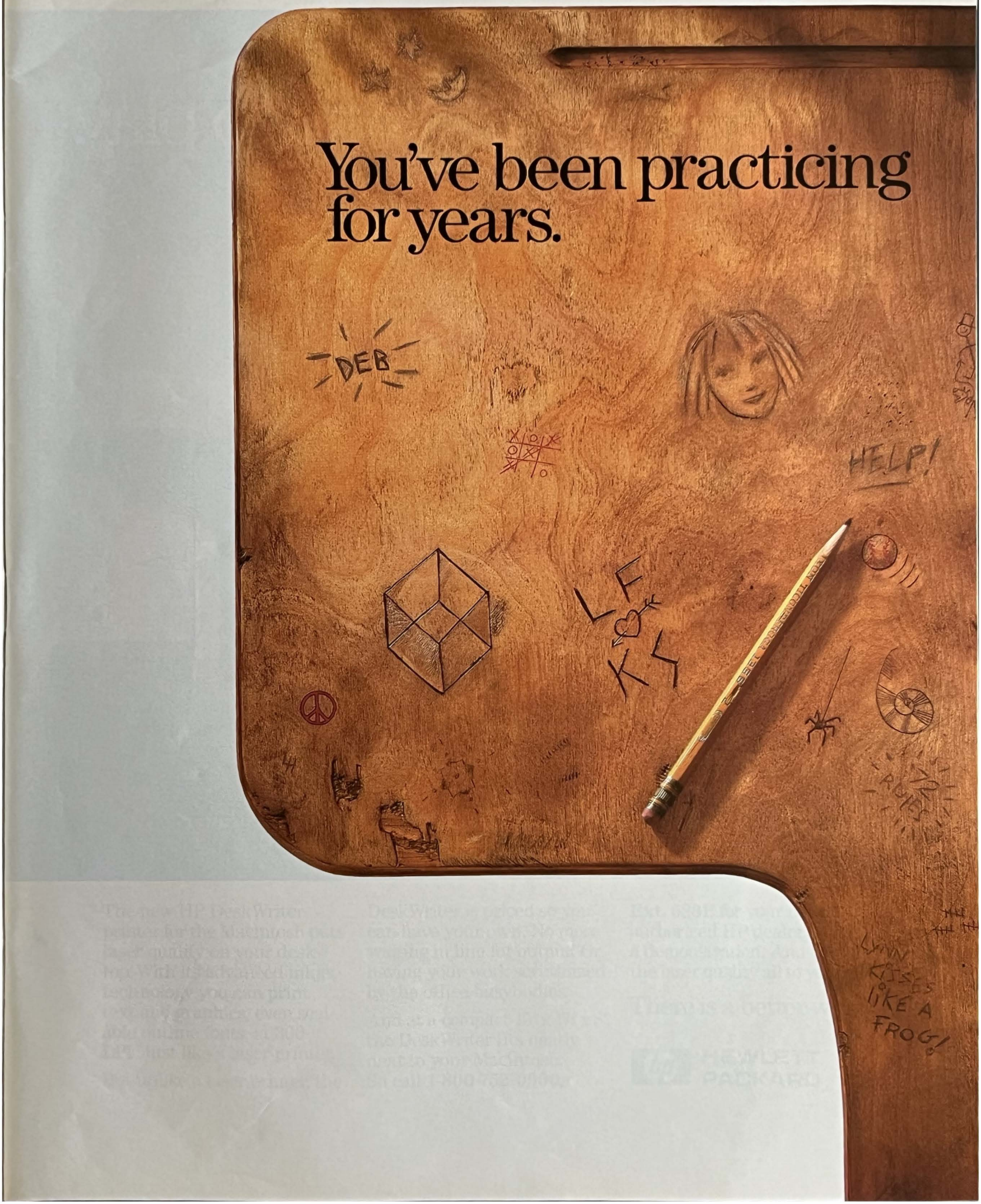
While the VAX server is the first to ship, Apple has promised a server for IBM's DB2 mainframe database early next year.

"We use [CL/1] to provide sophisticated database information to users who are not sophisticated with computers," said Rick Christjansen, manager of automation support at Manville Technical Center in Denver. Christjansen's department has created an information reporting program integrating two VAX databases. "The CL/1 interface to the VAX will be the final piece of our lab's information management system," he said.

Ninety days of free phone support will be included with the purchase of the VAX server, Apple officials said.

AppleTalk for VMS 2.1 was co-developed with Pacer Software, a Westborough, Mass.-based supplier of Mac-to-VAX connectivity software. The software will cost $5,000 for a commercial license and $1,000 for an in-house development license. Current AppleTalk for VMS licensees will receive the upgrade free.

CL/1 can be ordered through APDA at (408) 562-3910 or (800) 282-2732. □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Graffiti in the Schools

by Kevin Shanahan

The stucco buildings at Lawrence Hirsch Vo Tech High School feature a giant piece of abstract doodling. Spray-painted red, black, and yellow, the tangled maze of writing reaches a height of ten feet and runs the length of a city block.

Some students and staff call it street poetry. Others call it vandalism. Nearly all agree that the graffiti appearing on the nation's school buildings is a growing problem for teachers and administrators who fear student violence if they crack down. "If I mucked up the gym walls when I was a kid, they would have laid the paddle on me," said Gyorgi Supejnikoff, weightlifting coach at Fritch High. "Now with kids packing who knows what in their lunch boxes, I think twice about disciplining them."

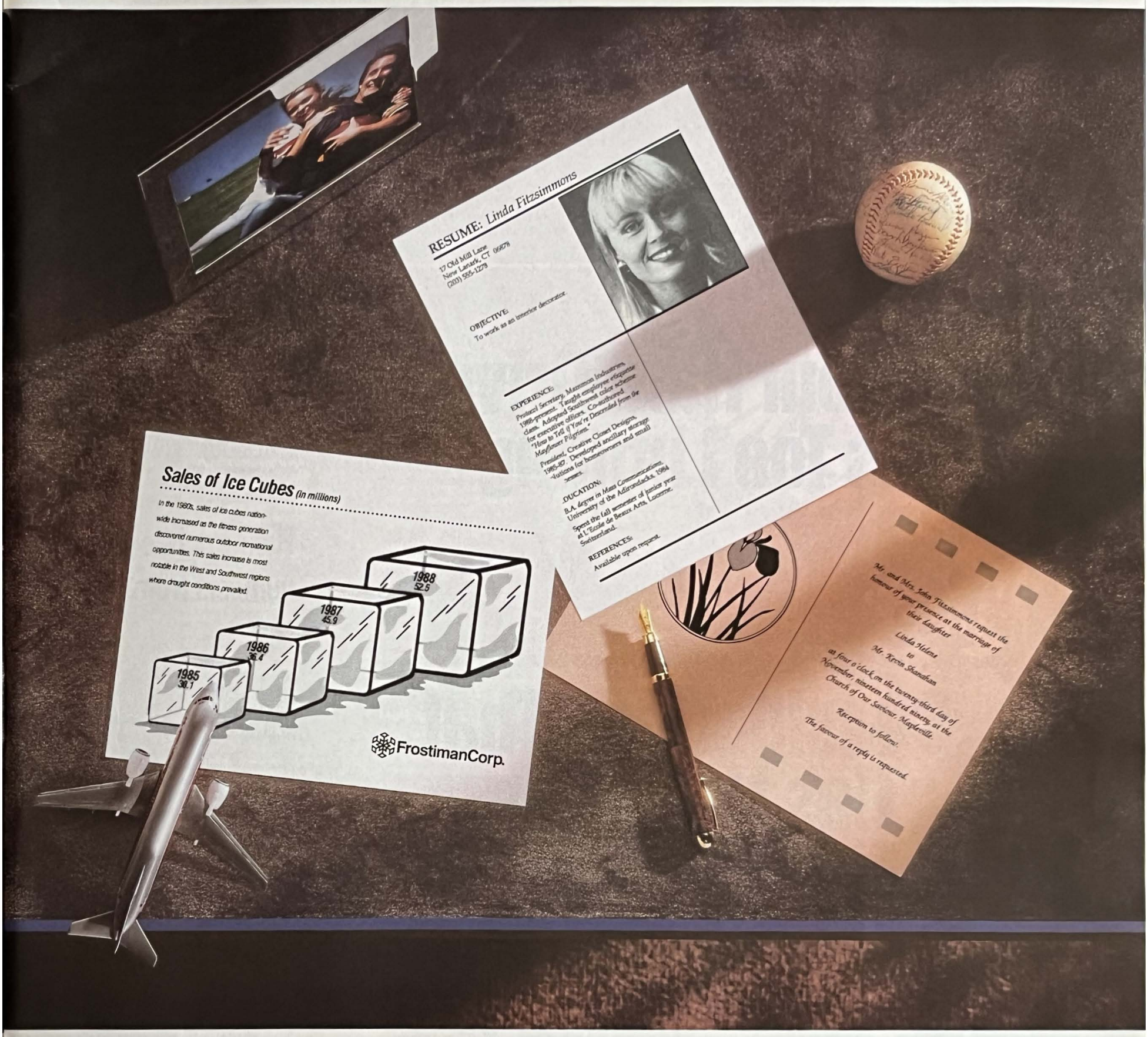
Defenders of graffiti say it gives teenagers a rare opportunity to express themselves. "With strict regimentation of male and female roles and the stifling insistence on the material American Dream, young individuals must achieve autonomy through what few creative outlets they have," said Tamara Birdsall, executive director of DEEP (Defenders of Extemporaneous Expression by Pupils).

Despite the current controversy, graffiti is nothing new. Early examples date from the appearance of the first written languages. "It's just what you would expect."

Graffiti discovered in Plato's classroom.

Introducing the HP DeskWriter printer for the Macintosh. $1195.*

*Suggested U.S. list price. ©1989 Hewlett-Packard PE12921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New Lanark, CT 06879
(203) 555-1278
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EXPERIENCE:
DUCATION:
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HEWLETT PACKARD

Unix, X Windows get Finder cousin

By Carolyn Said

Arlington, Va. — A kissing cousin of the Macintosh Finder shipped this week for Unix workstations.

Visix Software Inc.'s Looking Glass, a desktop manager for Unix workstations and X Windows System terminals, parallels the Finder in function while using the look and feel of the Open Software Foundation's OSF/Motif.

"Technically, there's no reason why we couldn't implement the Mac look and feel," said Frank Hecher, Visix technical support manager. "Legally, there are plenty of reasons. No vendor in his right mind would ship that."

The mouse-driven, icon-based Looking Glass consists of three basic elements:

▶ A Global menu, similar to the Finder menu bar, which displays operations the user can perform regardless of which file is open.

▶ A Directory window, similar to a Mac folder window, which displays folders (called directories), files and applications.

▶ A Desktop Icon Panel, similar to the Mac desktop, which contains frequently used directories, files and applications.

"We tried to build the software so a Mac user would look at it and go, 'Wow, that's cool. Let me play with it,' " said Jay Wettlaufer, Visix president. "You can't say that about Unix software."

Looking Glass sells for $595 to $795, depending on platform. Visix also has OEM agreements with several workstation vendors.

"I'm very impressed," said Mike McHugh, an applications engineer with Digital Equipment Corp. in Marlborough, Mass. Citing the product's speed and its searching and tracking abilities, he said: "It should have a really strong appeal to Mac users. It offers you the Macintosh ease of use with a full multitasking workstation."

Visix Software Inc. is at 1525 Wilson Blvd., Fourth Floor, P.O. Box 12547, Arlington, Va. 22209; (703) 841-5818; (800) 832-8668. □

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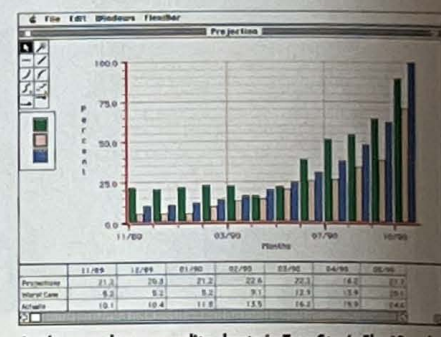


As the user draws or edits charts in Tree Star's FlexiGraphs projection and planning program, the software generates the corresponding numbers in its on-screen spreadsheet.

FlexiGraphs extracts numbers from charts

By Henry Norr

Santa Barbara, Calif. — Tree Star Inc. last month began shipping FlexiGraphs, an interactive business graphics application that derives numbers from graphs drawn on the screen by the user.

"It's exactly what we were looking for," said Michael Russer, president of Quadran Mortgage Consulting here. Russer uses FlexiGraphs with a proprietary loan analysis program developed with Informix's Wingz to help clients understand the ramifications of changes in the index rates on which variable-rate mortgage payments are based.

With FlexiGraph's MacDraw-style palette, users can draw and edit line, bar or pie graphs; the numbers are instantly displayed in a worksheet with up to 24 rows and 400 columns on screen. Alternatively, data can be pasted into the spreadsheet from the Clipboard.

Charts and data can be formatted for printing directly from the program. They also can be pasted to the Clipboard for export. Data can be exported in ASCII format as well.

Among the program's features is the ability to set constraints on parts of the graph, with changes to the whole absorbed by unconstrained elements. Budgets, for example, can be constrained so that any increase in expenses is absorbed by a decrease in other items.

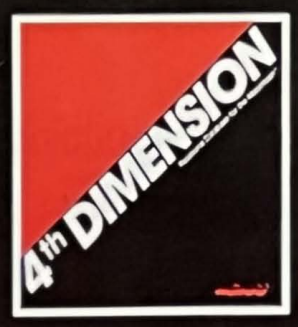
FlexiGraphs also allows the user to establish dependencies, defining variable costs in a budget, for instance, as a certain percentage of sales. As the user redraws the sales curve, variable costs change commensurately.

FlexiGraphs has an introductory price of $149; after the end of the year, its cost will rise to $179.

Palo Alto Software of Palo Alto, Calif., offers Tim Berry's Forecaster, a $69.95 program with some similar capabilities. Forecaster, however, is limited to line graphs and a total of 24 data points.

Tree Star Inc. is located at 1802 Hillside Road, Santa Barbara, Calif. 93101; (805) 682-4096. □

Version 2



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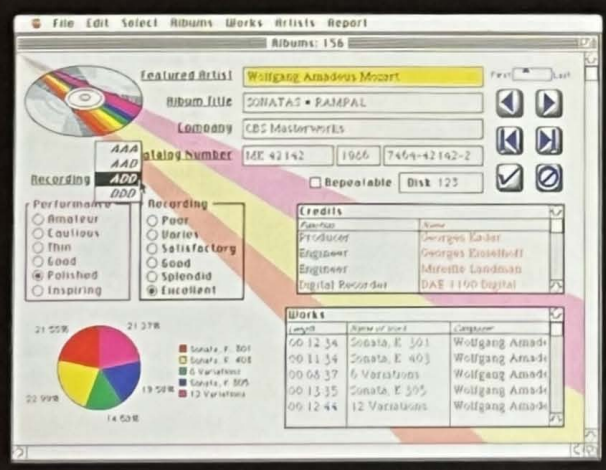

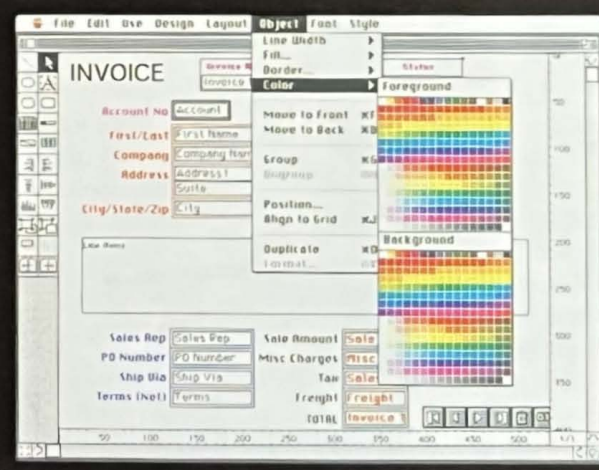

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patrick chêdal

Disks boost QMS printer memory

By Pam Pfiffner

Mobile, Ala. — QMS Inc. has released two hard disks for expanding the memory of QMS printers, including its ColorScript 100 models.

Available in either 20-Mbyte or 40-Mbyte capacities, the SCSI hard disks increase printer storage for downloadable fonts and large image files and enhance printer performance by extending font caching capabilities.

Priced at $995, the QMS-SC 20 hard disk has an average access time of 65 milliseconds. The QMS-SC 40, with a list price of $1,495, has an average access time of 28 milliseconds.

Software bundled with the hard drives includes drive initialization and testing, font downloading and identification, and partitioning utilities.

The drives, based on mechanisms manufactured by Western Digital of Irvine, Calif., are compatible with any QMS PostScript printer with a SCSI interface, including the QMS-PS 810 turbo, 820 turbo, 1500, 2200S and 2200E monochrome printers. The drives also work with QMS ColorScript 100 Model 10, 20 and 30 color printers.

QMS Inc. Marketing Services can be reached at 1 Magnum Pass, Mobile, Ala. 36618; (800) 631-2692, ext. 909. □

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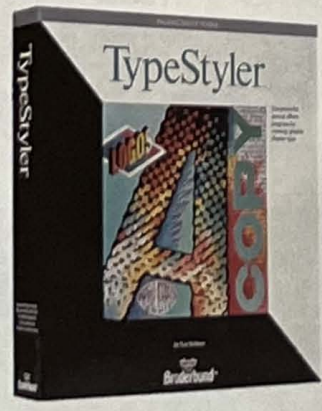

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Procom Technology unveils high-capacity hard disks, DAT drive

By Pamela Pfiffner

Costa Mesa, Calif. — Extending its HiPerformance line of storage products for the Mac, Procom Technology Inc. last month introduced two new high-capacity drives and a digital audio-tape drive.

Procom offers hard disks in capacities ranging from 20 to 650 Mbytes, as well as floppy drives, optical discs and tape subsystems.

The HiPerformance 150 and the HiPerformance 200 hard drives are available as internal or external units. They feature active termination — a flip of a switch on the back of the drive case turns device termination on or off.

Both units are bundled with Procom's proprietary software, which features automatic bad block reconfiguration and drivers that optimize performance for each Mac model.

The HiPerformance 150 has an average access time of 16 milliseconds, a data transfer rate of 10 Mbps and an MTBF (mean time between failure) rating of 40,000 hours, according to the company. Available now, the external 150-Mbyte drive is priced at $2,195, and the internal at $1,995.

The 200-Mbyte drive has an average access time of 18 milliseconds, a data transfer rate of 10 Mbps and an MTBF of 30,000 hours. The HiPerformance 200, priced at $2,595 for the external unit and $2,295 for the internal, will ship later this month.

The company declined to disclose the OEM supplier of its drive mechanisms.

In January Procom will ship a half-height digital audio-tape (DAT) drive for $3,995. Based on a Wangtek mechanism, the HiPerformance DAT drive promises a data transfer rate of 4 Mbytes per second and an MTBF of 20,000 hours. It uses a 4-millimeter Sony cassette that offers 1.3 Gbytes of storage for selected files or entire volumes. Using Procom's proprietary software, it operates in the background under MultiFinder.

Procom Technology Inc. is located at 200 McCormick Ave., Costa Mesa, Calif. 92626; (714) 549-9449. □

Filter converts files from typesetting systems

By Carolyn Said

Tampa, Fla. — ChangeRight Professional, an input conversion filter from EDCO Services Inc., allows documents created on commercial typesetting systems to be paginated on the Mac in Aldus PageMaker or QuarkXPress.

The $2,000 filter, which preserves all text attributes from imported files, supports file formats from Alphatype Multiset, Compugraphic MCS, Quadex, PowerView, Atex, CCI and Magna systems.

For typographers who want to paginate on the Mac and print to a non-PostScript typesetter, EDCO offers PageSet, a $3,500 conversion program that allows output to Compugraphic, Linotype, Autologic, Alphatype and Varityper typesetters.

EDCO also sells a $650 SCSI drive that lets the Mac read 5.25-inch disks from such typesetters as the Compugraphic MCS and PowerView.

EDCO Services Inc. is located at 12410 N. Dale Mabry Highway, Tampa, Fla. 33618; (813) 962-7800. □

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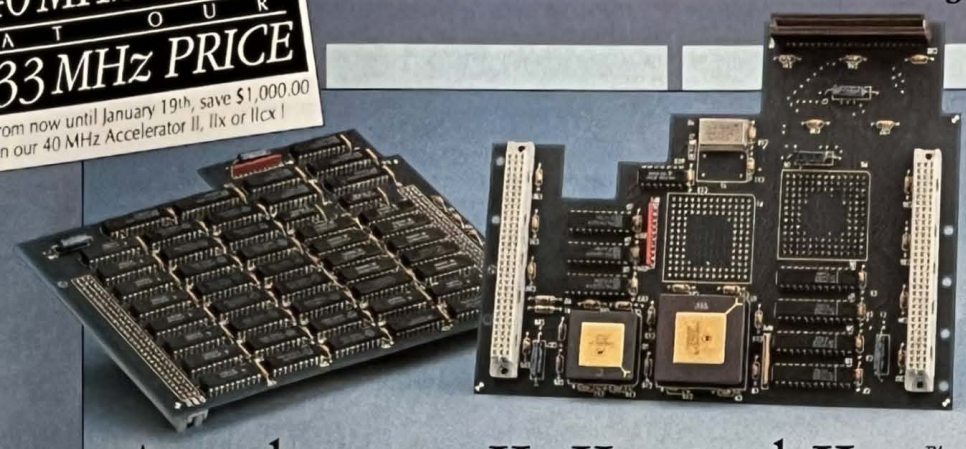

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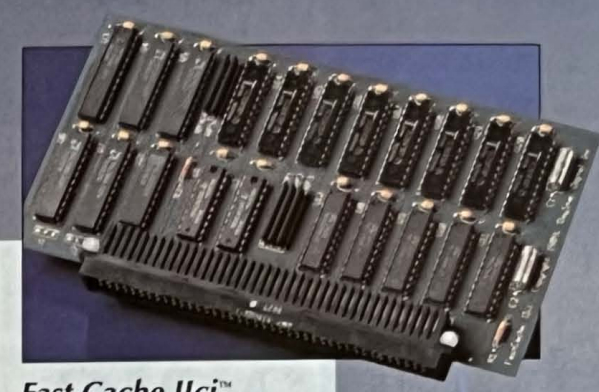

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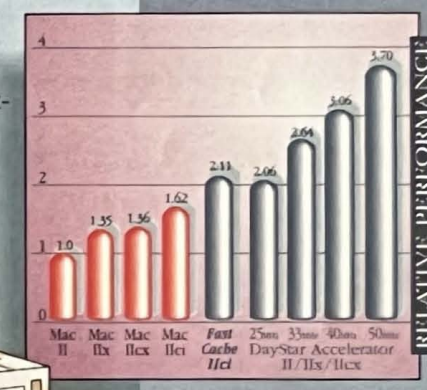

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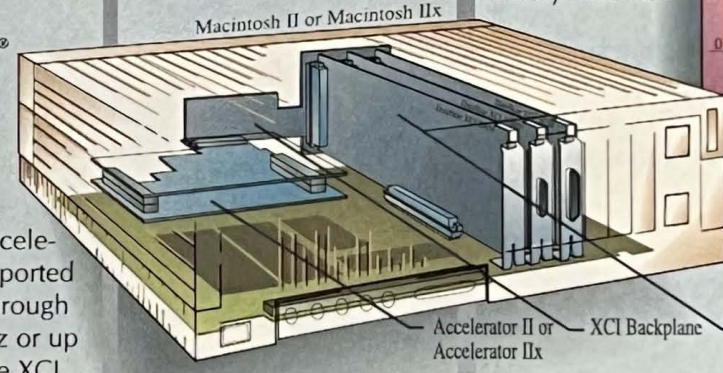

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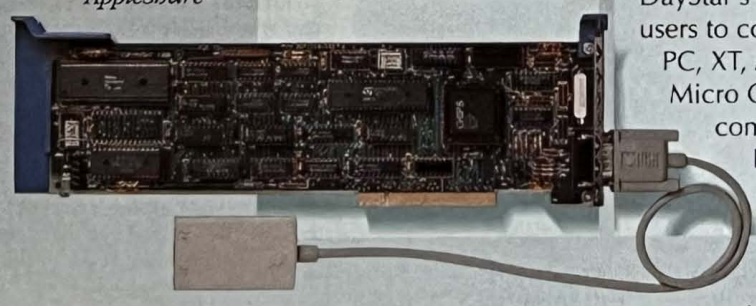

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KiwiFinder Extender's dialog box offers new ways to view and retrieve disk files, including the use of keywords.

Kiwi INIT extends dialog boxes

By Henry Norr

Santa Barbara, Calif. — Targeting users frustrated by the difficulty of browsing large and complex folder hierarchies from standard Open and Save dialogs, Kiwi Software Inc. will soon enter the field of dialog box enhancement with a Startup document (INIT) called KiwiFinder Extender.

Unveiled at the Macintosh/LA conference earlier this month, the INIT lets users view their files in seven ways, with files automatically arranged in temporary display folders by category. When viewed by date, for instance, files are shown in folders by year and month; when viewed by creator, files created by each application appear in a separate folder. Within each folder, files can be sorted in four ways.

The program also lets users attach keywords to any file from the dialog boxes, and files with common keywords can be grouped together. A sophisticated search module locates files according to multiple criteria, such as all files created by Excel after Oct. 1 with the keyword "budget."

Scheduled for release in the first quarter of next year, KiwiFinder Extender will be priced at $99.95. The company, previously known for its KiwiEnvelopes utility, will offer a 60-day money-back guarantee.

The Kiwi product will join several other dialog box extenders on the market, including Working Software Inc.'s Findswell and Aladdin Systems Inc.'s Shortcut. Version 2.0 of Boomerang, a folder- and file-navigation INIT that has won a following among users of electronic bulletin boards while available free in beta form, will be released next week as a $30 shareware product.

Kiwi Software Inc. is located at 6546 Pardall Road, Santa Barbara, Calif. 93117; (805) 685-4031. □

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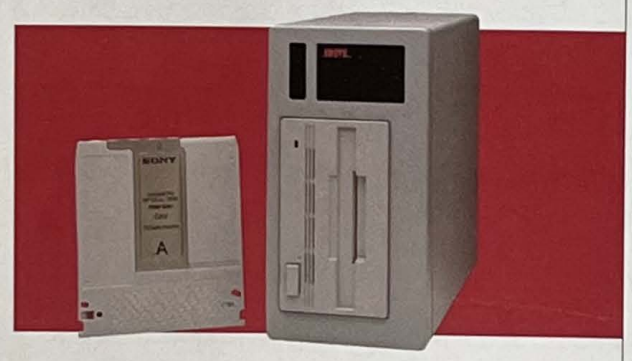

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BMUG (Berkeley Macintosh User Group) Newsletters Choice Product section says... "It's fast, reliable and trouble-free; the best of all Syquest removable drives available". (Winter/Spring 89) DPI has been listed in this category for the last three bi-yearly issues.

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DPI

Engage ships speedy synchronous router

By John Battelle

Foster City, Calif. — Engage Communication Inc. last week shipped the SyncRouter, a network router that directs AppleTalk packets over high-speed synchronous communications services such as T1, Digital Data Services and Integrated Services Digital Network.

Synchronous connections, with full duplexing and lower overhead than the half-duplexing asynchronous, or dial-up, lines that typically link LANs, translate into faster and more-efficient internetworking. Connecting to a synchronous line, however, can be costly.

The SyncRouter solves this problem by connecting LocalTalk LANs directly to a synchronous line, according to Mark Doyle, president of Engage.

"Most large corporations already have a lot of bandwidth, usually in the form of leased T1 lines," Doyle said. "Now it's just a matter of giving up some of [that bandwidth] for AppleTalk."

The company's only other competition is the $2,195 H-Server, introduced in February by Solana Electronics of San Diego.

The $1,895 SyncRouter is being used by General Electric Co. to connect several geographically dispersed East Coast offices.

"To connect two networks [synchronously] we used to have to get onto Ethernet using a $2,400 AppleTalk-to-Ethernet gateway, then use two [$17,000 Ethernet-to-T1 gateways] for the T1 line, and then another Ethernet-to-AppleTalk at the other end," said Price Collins, program manager of product applications for GE.

"SyncRouter performs better than the other products on the market at one-tenth the cost," he said, adding that networks hundreds of miles away seem to the user as if "they were in the same building."

The SyncRouter includes ports for RS-232, RS-449 and V.35 connections. It includes an on-board Intel 8088 processor and 32 Kbytes of static RAM (expandable to 96 Kbytes). Administrative software included with each unit checks line status, network numbers and bit rates. The SyncRouter is compatible with AppleTalk Phase 2, according to the company.

Engage is at 756 Marlin Ave., Suite 4, Foster City, Calif. 94404; (415) 358-0264. □

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1 Your company's primary business activity AT THIS location (check one only):

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- ☐ 02. Architecture, Engineering
- ☐ 03. Research and Development
- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal
- ☐ 12. Retail, Wholesale, Distribution
- ☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related
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- ☐ 23. Manufacturer (Computers, Software, Peripherals)
- ☐ 24. Computer Consultant
- ☐ 99. Other Businesses & Services (please specify) _____

2 Your Professional Title (check one only):
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- ☐ C. General Manager/Director
- ☐ D. Micro Manager/Specialist/Coordinator
- ☐ E. Project Manager
- ☐ F. Art Director/Graphic Designer/Artist/Illustrator
- ☐ G. Manager/Supervisor (not listed above)
- ☐ H. Architect/Engineer
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- ☐ C. Communications/Publishing/Public Relations
- ☐ D. Art/Creative Design
- ☐ E. MIS/DP/Information Systems
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- ☐ I. Accounting/Finance
- ☐ J. Education/Training
- ☐ K. Science
- ☐ L. Consulting
- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

		Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1		
Macintosh IIci	2		
Macintosh II	3		
Macintosh SE/30	4		
Macintosh SE	5		
Macintosh Portable	6		
Macintosh Plus	7		
Macintosh (Other)	8		
IBM/Compatible Micro	9		
Workstation (e.g. Apollo, Sun)	10		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

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Title _____ Business Telephone _____
Company Name _____
Division _____ MS _____
Street Address (Where you work) P.O. boxes not accepted on this line. _____
City _____ State _____ Zip _____

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address _____
City _____ State _____ Zip _____

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500+
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):
☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

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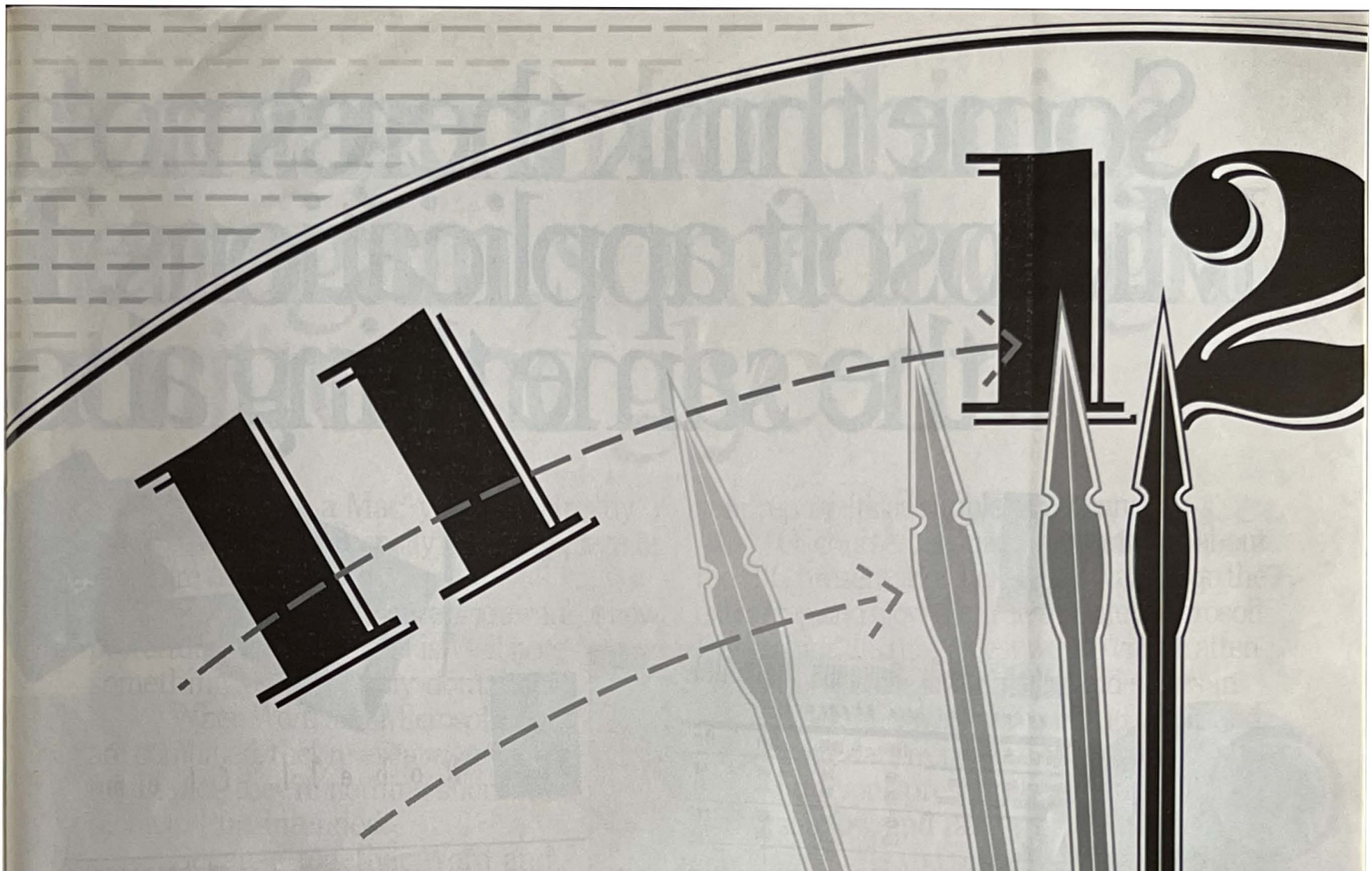

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Some think there's no a
Microsoft applications. T
the same thing abo

Nobell Chem Revenue Potential

Product Portfolio Breakout

High Growth Markets	1989	1990	1991	1992
Medical Applications	15	25	40	60
Industrial Applications	30	39	46	51
Total	*45*	*64*	*86*	*111*
% of total	*55%*	*63%*	*68%*	*72%*
Mature Markets				
Defense Applications	36	38	40	42
% of total	45%	37%	32%	28%
Total Revenue	*81*	*102*	*126*	*15*

Nobell Chem

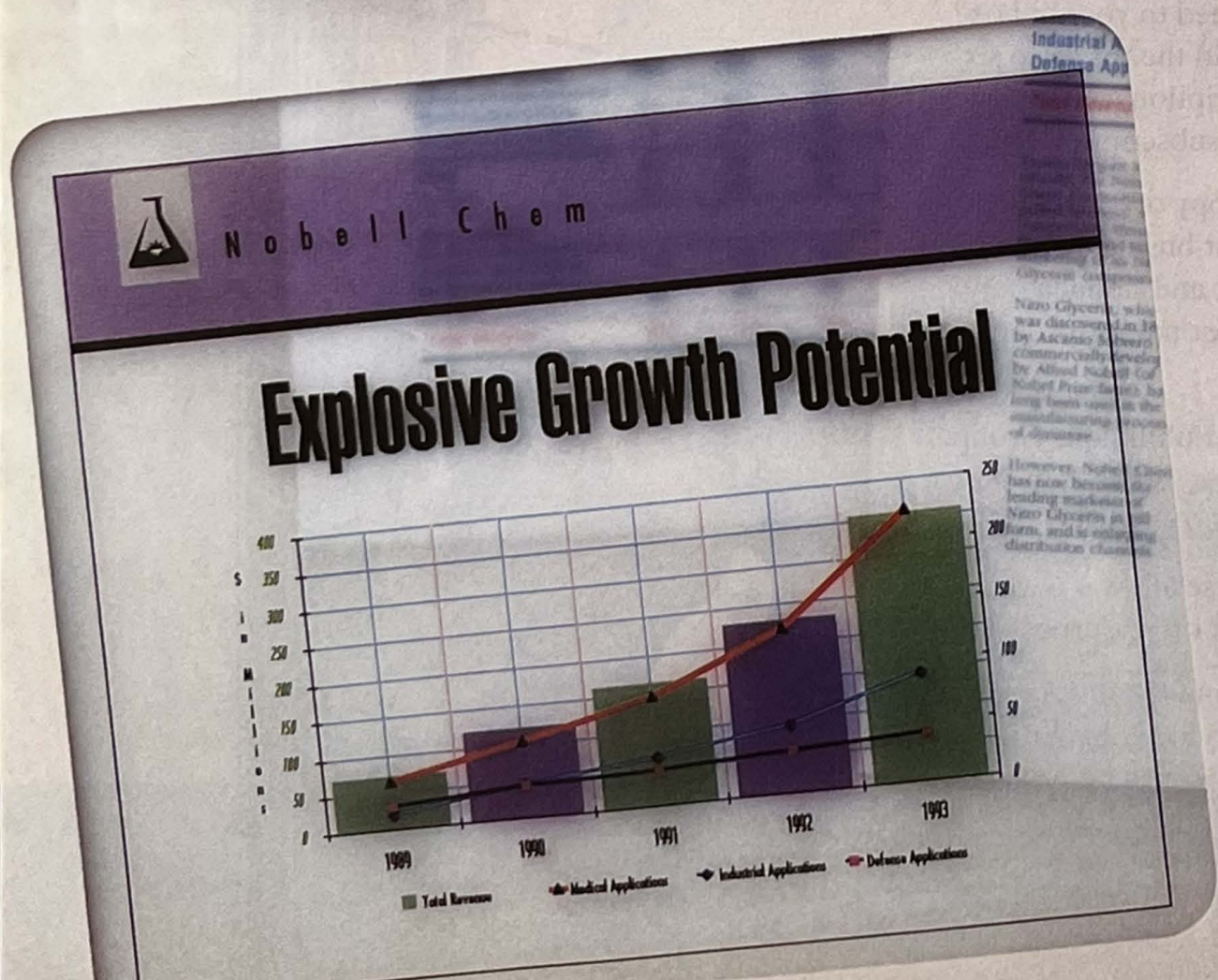
Report to the Board of Trustees

During the past twelve months, the Nobell Chem Corporation pulled far ahead of the competition, through the diverse and strategic marketing of its Nitro Glycerin compound.

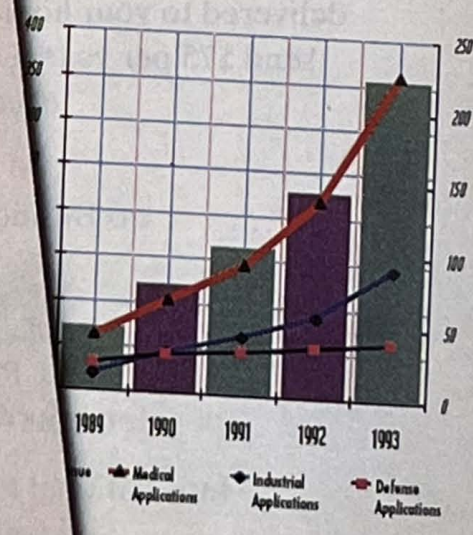
Nitro Gly ich was discovered in 1847 by Ascanio Sobrero and commercially developed by l Prize fame), has long been used in the manufacturing process of dynamite.

now become a leading marketer of Nitro Glycerin in pill form, to aid l uses. As a result of this development, Nobell Chem is now expanding istribution channels.

1989	1990	1991	1992	1993
15	25	40	60	85
30	39	46	51	72
36	38	40	42	44
81	*102*	*126*	*153*	*201*



Explosive Growth Potential



dvantage to combining hen again, some thought ut nitro and glycerin.

If you own a Mac® you may already know what a phenomenally powerful piece of software Microsoft® Word is.

And, most likely, you're also aware of how powerful Microsoft Excel is. Well here's something you probably don't know:

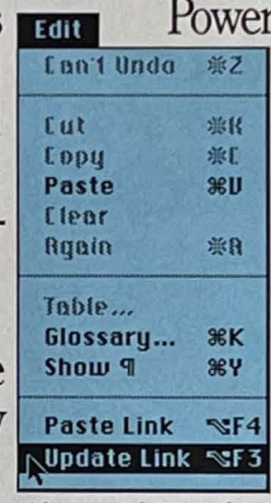
When Word and Microsoft Excel are combined, they're even *more* powerful. In fact, they're nothing short of explosive. Pun intended.

Because together Word and Microsoft Excel allow you to exploit the Macintosh®'s operating system in a way that has never been possible before.

We call this unprecedented feature "warm links." But you'll be more inclined to call it the best thing for revising documents since white out.

Here's how warm links works. Imagine it's the end of the day and tomorrow's the BIG presentation. You've been working with the sales manager to incorporate his Microsoft Excel projections into your report. You're finally done. But wait. Suddenly he makes one of his famous last-minute changes to the spreadsheet.

This is where warm links saves the day (or the hour). No more antiquated manual moves of opening and closing your document, cutting, pasting and praying. With warm links, you simply open your Word document and select Update Link. Word automatically finds the latest Excel data and updates your report. It's as simple as it sounds.



After you update your data in Microsoft Excel, select "update link" from Word's edit menu, and the change will automatically appear elsewhere.

Of course, because we are talking about the BIG presentation here, you'll want to go the extra step and blow them away. Enter Microsoft PowerPoint®. It's the easiest way to create attention-getting overheads and slides in black and white or color. Just cut and paste data from Word or Microsoft Excel into your presentation, draw, color, shadow, and take a bow.

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Nuvotech starts new Ethernet line

By John Battelle

Sausalito, Calif. — Nuvotech last month shipped the NuvoLink SC, an external SCSI Ethernet connector. The move marks the beginning of a new product line the company plans to roll out over the next year.

The $495 NuvoLink SC includes hookups for both thick and thin Ethernet. With the addition of Nuvotech's NuvoNet ET connector, which the company said it expects to ship in the first quarter of 1990, the NuvoLink SC will also support twisted-pair cabling. The box features LED indicators for power, configuration and activity status.

Additionally, Nuvotech announced the NuvoLink II, a $395 NuBus Ethernet card scheduled to ship in January.

Nuvotech will offer the NuvoLink SC under an exclusive licensing agreement with Compatible Systems Corp. of Boulder, Colo., which developed the technology for the Ether+, a similar product it released last June. Compatible Systems will continue to market its version, which is also priced at $495.

Adaptec of Milpitas, Calif., and Dove Computer Corp. of Wilmington, N.C., offer competing SCSI-to-Ethernet links. Kinetics, a division of San Jose, Calif.-based Excelan, last month dropped its entrant in the field, the EtherSC, from its product line.

Nuvotech will include Apple's LAP manager software and an Ethernet driver as well as its own configuration and management software with each NuvoLink.

"The NuvoLink will let us put our Pluses and SEs on the net," said Terry Abbot, Mac network manager at Eastman Kodak in Rochester, N.Y. Abbot also said that the NuvoLink will be ideal for use with rented computers that do not have internal Ethernet cards.

Nuvotech is at 2015 Bridgeway, Suite 204, Sausalito, Calif. 94965; (415) 331-7815. □

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MET releases fax modem

By Carolyn Said

Hopkinton, Mass. — Micro Electronic Technologies Inc. last month introduced the 2400XF Fax/Modem, an external modem that combines data and fax capabilities at an aggressive price of $239.

Slightly smaller than a videocassette at 5.5 by 4.25 by 1.5 inches, the Hayes-compatible 2400XF Fax/Modem can send Group III-compatible fax transmissions at 4,800 bps.

Mac users will have to wait to use the modem's fax capabilities, however. The 2400XF comes bundled with Quick Link II Fax, a $149 program from Smith Micro Software of Huntington Beach, Calif., that runs only on IBM PCs and compatibles. A Mac version of the software is expected by this month and will be free to 2400XF owners, according to Paul Laskow, MET president.

Quick Link II Fax lets users send multiple documents; fax TIFF, PICT and MacPaint-format documents; schedule unattended faxes; and send to multiple numbers.

The 2400XF features an extra serial connector called a "Pass-Thru" port to which users can plug another device, such as a scanner, plotter or printer. When the modem is in use, the device is automatically disconnected from the computer.

MET also announced a 33 percent price cut, to $199, for its 2400X data modem, which shares all the features of the 2400XF except for fax capability.

Micro Electronic Technologies Inc. is located at 25 South St., Hopkinton, Mass. 01748; (508) 435-9057. □

High-capacity Hitachi drives come to Mac

Brisbane, Calif. — Hitachi America has made its high-capacity disk drives available for the Mac.

The 3.5-inch drives will be available to OEMs in production quantities in the first quarter of 1990, the company said.

Hitachi is offering the Mac SCSI interface on two drives: the 209-Mbyte DK312C-20 and the 251-Mbyte DK312C-25. Both drives have a 32-Kbyte cache buffer, average access times of 16.8 milliseconds and a mean time between failure rate of 100,000 hours, according to the company.

Pricing in OEM quantities is $1,200 for the DK312C-20 and $1,350 for the DK312C-25.

Hitachi America is located at Hitachi Plaza, 2000 Sierra Point Parkway, Brisbane, Calif. 94005; (415) 589-8300. □

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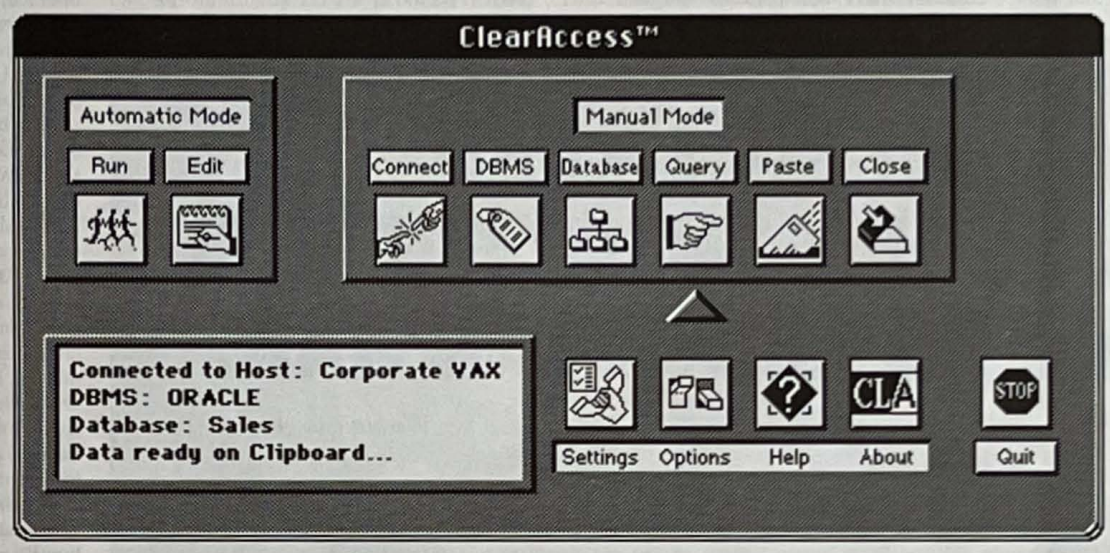

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QuickMail X.400 gateway planned

By Carolyn Said

Campbell, Calif. — Touch Communications last month announced plans to develop an X.400 gateway for QuickMail, the electronic-mail package from CE Software of West Des Moines, Iowa.

The gateway to X.400, a global messaging standard developed by the Consultative Committee International Telegraph and Telephone (CCITT), "will extend QuickMail users' reach by allowing them to exchange messages worldwide with any other mail system that supports X.400," said Andy Lauta, Touch market development manager.

"The real significance is that the availability of an X.400 gateway makes it that much easier for a corporate IS manager to seriously consider Mac E-mail packages," he said.

The QuickMail gateway is due early in the second quarter of 1990. Pricing will be announced early next year, Lauta said.

Touch is also developing X.400 gateways for Microsoft Mail and for E-mail programs based on MHS (message handling service) technology, such as MacAccess: The Macintosh Link to The Coordinator, a package from Action Technologies of Emeryville, Calif.

Touch Communications is located at 250 E. Hacienda Ave., Campbell, Calif. 95006; (408) 374-2500. □

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Enhanced developer version of Dialoger utility released

By Raines Cohen

Greensboro, N.C. — An enhanced developer version of Dialoger, a four-stack package of external commands that facilitate the creation and display of dialog boxes from within HyperCard stacks, was released last month by theResult Software Inc.

The new release, Dialoger Developer, offers stack developers unlimited licensing of the XCMDs for display and manipulation of dialog boxes, as well as a subscription to theResult's Technical Note Series. Kard Keeper II, a utility stack with more than 30 additional XCMDs designed to help developers manage stack components, alsois included in the package and covered by the license.

Dialoger Developer incorporates enhancements recently added to the original Dialoger in an update called Version 1.02. Both programs now offer more reliable dialogs, the company said, as well as features for manipulating multiple modeless dialogs at one time.

Software Ventures of Berkeley, Calif., will bundle a special version of Dialoger with the forthcoming upgrade to its telecommunications package, MicroPhone. "It's customized to work with MicroPhone II 3.0 and integrated into the application to allow users to control dialogs from communications scripts," said Leonard Rosenthol, a programmer at Software Ventures.

Leonard Buck, theResult vice president and Dialoger developer, said the new release is part of an aggressive program of enhancements to the package. "We're gearing up for a 1.5 release, probably at the end of January," he said, promising "aggressive, very reasonable pricing" as well as such features as palettes, key scrolling on lists in dialogs and scrolling editable text.

Donna Cohen, a producer at the Warner New Media Division of Time-Warner in Burbank, Calif., said she used Dialoger Developer in the company's Magic Flute CD-ROM, due next month as part of its AudioNotes series. "We went to Dialoger to have prettier, more-dynamic dialog boxes," she said.

Dialoger Developer is priced at $150. Dialoger 1.02 is available for $94.29. Upgrades are $10 to Version 1.02 or $55 to Dialoger Developer.

theResult Software is located at 616-D Guilford College Road, Greensboro, N.C. 27409; (919) 294-5034; (800) 365-5034. □

SnapGuide steadies scanning

Orinda, Calif. — Thunderware, maker of the LightningScan scanner, has devised a plastic accessory designed to help users steady their hands while dragging the handheld scanner across the image area, thus making it easier to produce an accurate image with the device.

SnapGuide, which has the same width as the scanning head, attaches to the scanner handle to provide a straight edge.

Now bundled with the LightningScan, SnapGuide will be offered free to registered owners. It also fits LogiTech's similar handheld scanner, the ScanMan, and is available directly from Thunderware for $14.95.

Thunderware is located at 21 Orinda Way, Orinda, Calif. 94563; (415) 254-6581. □

Font packages support E. Euro languages

Company readies Mac for perestroika bonanza

By Henry Norr

Chapel Hill, N.C. — As the Iron Curtain crumbles, Mac owners looking for new contacts and business opportunities in Eastern Europe may want to consider some recent entries in glps Products' line of language-support packages.

Besides its original Abtop III product for Cyrillic (see MacWEEK, Aug. 8), glps now offers Pisarz III for Polish, Pisatel III for Czech, Író III for Hungarian and Pisac III for Serbo-Croatian.

Each package offers four fonts in up to seven sizes each and permits single-keystroke entry of most or all characters, with overstrikes for some diacriticals. Drivers included in the packages let users alternate between the Western character set and the foreign font by simply pressing Caps Lock. The foreign characters can be used in any word processor or anywhere else text can be entered, including in file and folder names, desk accessories and HyperCard.

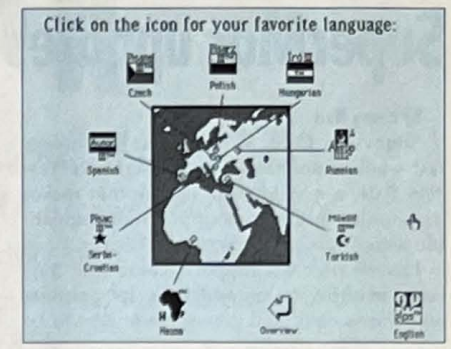
The company also offers packages for other languages: Autor III for Spanish, Müellif III for Turkish and Marubuci III for Hausa. David Moffat, glps president, said the company's focus is on Eastern Europe, however.

"When Romania goes the way of the others, I will have Romanian ready, too!" he said.

While the Russian and Serbo-Croatian language support packages are priced at $59.95, the others cost $49.95. Student discounts of 20 percent are available.

The programs work with glps Products' Vocabulary Creator DL, a $79.95 utility that can automatically create properly sorted word lists and provides a variety of specialized filtering and searching options.

glps Products can be reached at P.O. Box 3454, Chapel Hill, N.C. 27515; (919) 933-6530; (800) 869-9567. □



Dual-language fonts and software for most Eastern European languages as well as for Spanish and several non-European languages are now available from glps Products.

National delivers SCSI GPIB link

Austin, Texas — National Instruments last month began shipping the GPIB-SCSI, an external SCSI device capable of controlling up to 14 instruments that use the IEEE-488 interface standard.

By using the standard SCSI port, the GPIB-SCSI saves a slot and ensures compatibility with all Macintosh models, regardless of slot architecture. It provides data transfer rates of up to 900 Kbytes per second. An optional RAM buffer, available with 64 or 256 Kbytes of memory, allows the SCSI port to be used by other peripherals while data is being downloaded.

GPIB-SCSI sells for $695 without buffer memory, $795 with 64 Kbytes of RAM and $995 with 256 Kbytes of RAM.

Applications can be written with standard Mac SCSI routines, with no special drivers required. By the first quarter of next year, the company expects to deliver drivers that will let users of its plug-in IEEE-488 boards move applications to the GPIB-SCSI.

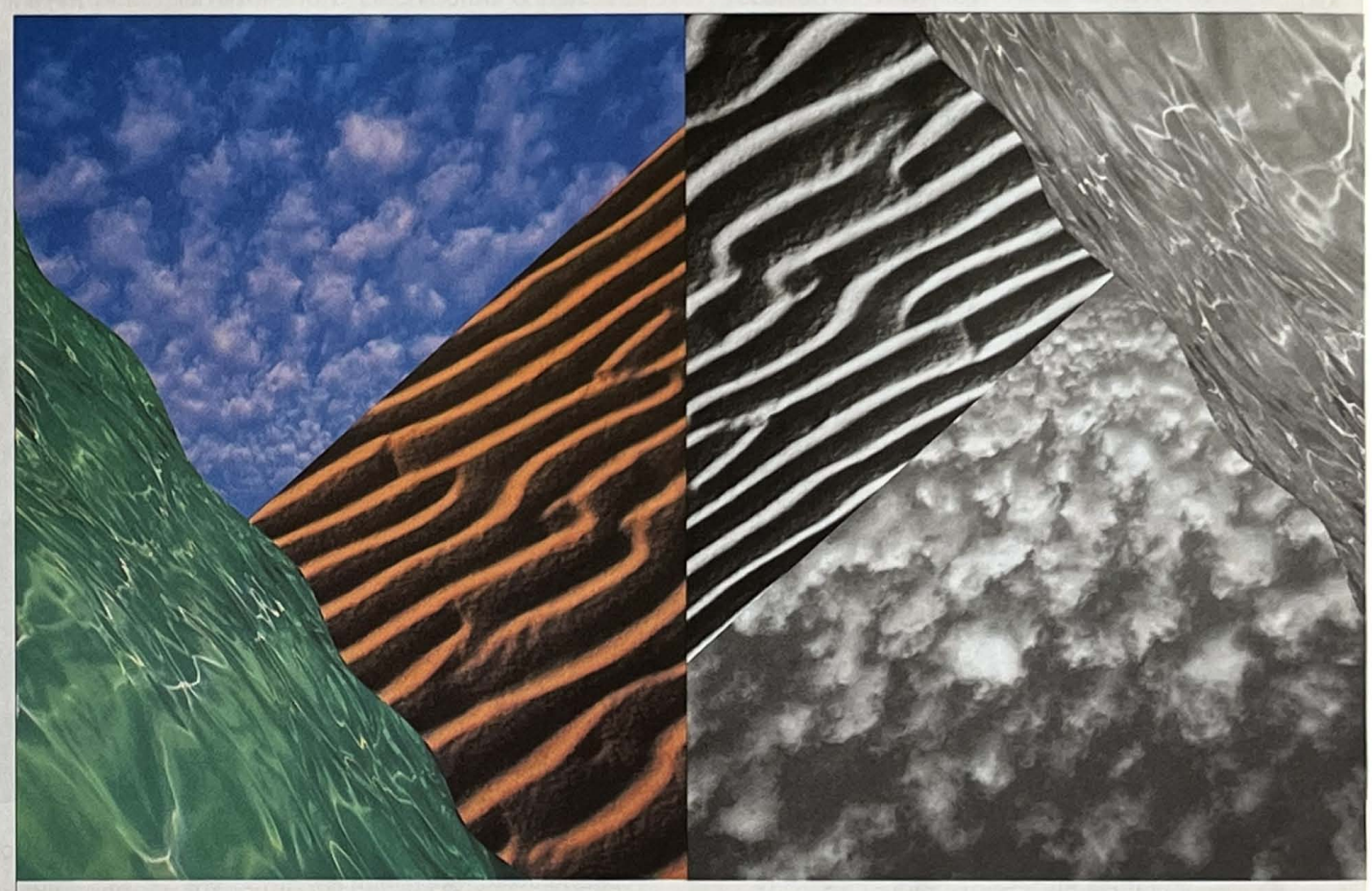
National Instruments is located at 12109 Technology Blvd., Austin, Texas 78727; (512) 250-9119. □

PLI cuts floppy drive price

Fremont, Calif. — Peripheral Land Inc. has reduced the price of its 1.44-Mbyte high-density floppy drive from $499 to $399.

Peripheral Land's Turbo Floppy 1.4 reads Mac and IBM high-density floppy disks, but not 400- or 800-Kbyte Mac disks. It connects through the SCSI port and is compatible with the Plus and all later Macs.

Peripheral Land Inc. is located at 47421 Bayside Parkway, Fremont, Calif. 94538; (415) 657-2211; (800) 288-8754. □



The First Color/Gray-Scale Scanner For Under $2200!

Microtek presents the MSF-300Z. The one scanner that can do it all: color, gray-scale, drawings and text. All for a price that until now, could barely buy you gray-scale capabilities.

Hard to believe, but it's true. You can scan vivid color images into your computer for desktop publishing, presentation graphics or pre-press work. A full 16.8 million colors at a time.

If you don't have a color application yet, this unique scanner captures gray-scale as well as black and white. So you can start working today.

Images can be scanned in 256 gray-scale mode and then retouched, scaled or rotated. And printed on a laser printer or phototypesetter with outstanding results.

Charts and drawings are quickly scanned in single bit-per-pixel mode then imported into your favorite publishing or word processing program. You can even bring words into your computer without retyping by adding OCR software.

Interface kits include sophisticated color, gray-scale and black and white image editing software and are available for the Macintosh ($500) and the IBM PC or PS/2 ($400).

If you need a scanner for your personal computer, you need Microtek's MSF-300Z Color/Gray scanner. Call (800) 654-4160 or in California (213) 321-2121 today to find your nearest Microtek dealer. After all, at this price, you can hardly afford not to.

The MSF-300Z Color/Gray scanner is just one member of a whole family of innovative scanners available from Microtek.

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•Microtek Lab, Inc., 680 Knox Street, Torrance, CA 90502, (213) 321-2121 (800) 654-4160 •Microtek International Inc., No. 6 Industry East Road 3, Science-Based Industrial Park, Hsinchu Taiwan 30077, R.O.C., 886-35-772155 •Microtek Electronics Europe, GmbH., Grafenberger Allee 277, Stapelmann-Haus, 4000 Düsseldorf 1, F.R. Germany, 49-211-6790051• © 1989 Microtek Lab, Inc. All rights reserved. Macintosh is a trademark of Apple Computer, Inc. IBM, XT, AT and PS/2 are trademarks of International Business Machines Corporation. All other trademarks or registered trademarks are the property of their respective holders.

SuperMac updates spooling program

By Henry Norr

Sunnyvale, Calif. — SuperMac Technology last week announced SuperLaserSpool Version 2.01, a maintenance update that makes its popular print spooling program compatible with Apple's LaserWriter 6.0 driver.

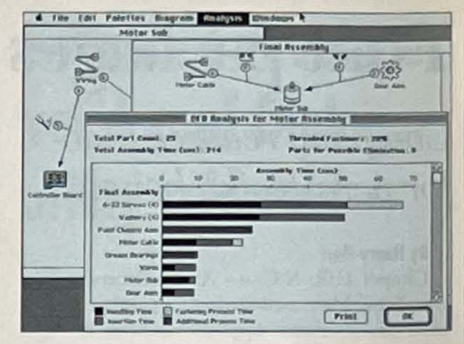
LaserWriter 6.0 supports color and gray-scale printing on color PostScript printers and allows color and gray-scale images to be printed as halftones on LaserWriters and other black-and-white PostScript printers.

The new version of SuperLaserSpool also is compatible with LaserWriter 5.2, the driver Apple continues to distribute on its standard system software disks.

SuperMac said the update is recommended for those printing with fractional font widths and for use with the following products: Insight Development Corp.'s MacPrint driver, BDT Products Inc.'s SheetFeeders, Microsoft Works and Odesta Corp.'s Double Helix.

The update to 2.01 is free to customers who purchased SuperLaserSpool on or after Oct. 1, $10 to other owners of Version 2.0 and $20 to owners of versions 1.0 or 1.1. Contact the company for upgrade pricing on the SLS 5-Pack.

SuperMac said orders must be entered on an update form, which can be obtained by calling or writing SuperMac Technology, Department 300, 485 Potrero Ave., Sunnyvale, Calif. 94086; (408) 245-2202. □



With Assembly View, users diagram how their subassemblies are put together (background windows). The bar chart details the number of seconds needed to build a part, broken down by handling, insertion and fastening times.

Sapphire introduces design-for-assembly software for the Mac

By Rochelle Garner

Menlo Park, Calif. — Sapphire Design Systems Inc. this week began shipping the first Macintosh-based software intended to encourage design for assembly, a cost-saving manufacturing methodology that is winning support from a number of U.S. corporations.

Available for $1,500, Assembly View helps companies design a product requiring as few parts and as little manual assembly time as possible.

"[Assembly View] is a fantastic piece of software because of its interface and customizability," said Marty Freedman, senior project engineer at General Motors Technical Center of Warren, Mich. "We have been looking at the software for nine months. One of its big benefits is the minimum amount of training required to do DFA (design for assembly) analysis, and its graphical representation really enhances the ability of a group of people to work as a team."

To begin the DFA analysis, the user graphically describes a subassembly by dragging icons representing parts into an open window, then links those parts with lines that represent insertion, placement and fastening operations.

The user then turns to the analysis portion of the program, answering a series of questions for each part and process. The questions make up the DFA methodology developed by Westinghouse Electric Corp. and licensed to Sapphire. Questions pertain to handling, insertion and fastening, covering such issues as a part's location, whether it is symmetrical, whether it needs a fixture, and whether it will nest or tangle in a holding bin.

Assembly View reports the results in two ways. One displays a current design's total parts count, the percent of fasteners that are threaded and the total assembly time. The other breaks down the assembly time per part according to handling time, insertion time and fastening time. Because this process can be performed iteratively, Assembly View permits what-if analysis.

Sapphire Design also will provide icons for company-specific processes, fastening methods and parts — with their underlying DFA information, including assembly time — for $250 per icon. Customized process icons cost $100 each. The minimum customization order is $2,500.

Sapphire Design Systems Inc. is located at 845 Oak Grove Ave., Suite 115, Menlo Park, Calif. 94025; (415) 321-3595. □

How to hold a conference with a mouse.

It's really all you need, provided it's attached to a Macintosh. And provided you have Alisa's MaxNotes — the Mac-based electronic conferencing program that speaks the DECnet VAX Notes protocol, and supports everything VAX Notes does.

MaxNotes is a Macintosh front end application for Digital's VAX Notes electronic conferencing system, using our DECnet package to connect to remote VAX Notes conferencing servers. It's simply the easiest way for Mac users to participate in VAX Notes electronic conferences.

And MaxNotes makes full use of the Mac's graphic interface. So there's no need to learn or use commands. Just point and click with your mouse.

MaxNotes is a powerful messaging tool you can use to promote communication, problem solving, and interpersonal education. And we designed it to be easy for the beginner, yet powerful enough for the experienced user.

MaxNotes. At last, it's possible to communicate with a mouse.

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THE NEW $1399 PLP II.

Now you can have everything you ever wanted in a laser printer. Without paying the price.

Introducing the lowest priced laser printer in history: the $1399 PLP™ II from GCC Technologies. GCC developed the very first personal laser printer in 1987, and has over 10,000 satisfied users... more than everyone else combined.

Finally, a revolutionary printer at a revolutionary price. In fact, at $1399, it's nothing short of a technological marvel.

Personal Desktop Printing.

Three years of research and development have put the finest printer technology right on your desktop: a combination of the newest third generation laser engine, GCC's own custom designed integrated circuits, and the market's most sophisticated QuickDraw™ imaging software yet.

Features such as a silent "sleep" mode, a very user-friendly LCD display and an envelope printing desk accessory have been carefully integrated to create a laser printer that truly is personal.

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Because PLP II includes 6 outline font families (for a total of 22 individual fonts), its razor-sharp, clean output can be shaped, scaled, and rotated to any point size — all at a full 300 dpi.

These outline fonts, combined with GCC's powerful QuickDraw imaging software, give you unlimited flexibility in producing perfect documents from such applications as PageMaker,® Word,® Excel,® MacWrite,® MacDraw,® Persuasion,® and Canvas.®

Dealer or Direct: Your Choice.

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800-422-7777.

To order direct from GCC, call us toll-free from 9 AM to 8 PM (EST) on weekdays, or 10 AM to 4 PM (EST) on Saturdays. Our trained staff can answer your questions and offer advice on any of our products. (Be sure to ask for our free catalog.) Orders received by 8 PM (EST) will be shipped the same day via overnight delivery for only $9.

What's more, when you buy direct from GCC we guarantee satisfaction. If after trying PLP II for up to 30 days you aren't completely satisfied, return it and we'll cheerfully refund your money.

One Year Warranty.

PLP II carries a full one year warranty on parts and labor. We also offer repair service at any Xerox® carry-in service center, or at any one of hundreds of GCC Technologies dealers.

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AD 913122

New Media STEVE ROSENTHAL

In the spirit of *perestroika*: Welcome IBM

"Welcome IBM. Seriously." That was the headline in ads Apple placed in major papers the day IBM announced the PC more than five years ago. Maybe it's time Apple did a similar video ad for IBM's entry into multimedia.

True, IBM has had an ongoing multimedia program for several years, with little visible result. But IBM's first microcomputer didn't have much industry impact until the company decided to focus real energy on it. Last month's Comdex could signal the start of a similar attempt by Big Blue to promote moving images on computers.

At the show, IBM for the first time focused its executives' speeches and a lot of its booth space on IBM-based multimedia. In fact, an IBM representative told me the company set out to present the message that it expects to be a major player in multimedia.

That may not be bad news for Apple. When Apple ran the original "Welcome IBM" ad, it explained that IBM's entry would legitimize and expand the market. Apple did prosper in the years that followed. The same result could happen in this new area.

High costs. In multimedia, costs are still too high and product choices too few to make this a technology for most of us. Compared to laser printers connected to Macs, the number of CD-ROM drives, videodisc players and video overlay boards is still small.

There's no absolute reason why costs for these units have to stay high nor why we can't have a bigger selection. If you look at the corresponding consumer market, you can see that costs have dropped precipitously for digital audio and video technology in the past five years while the number of products has skyrocketed.

The secret is volume. Apple has sold only a few thousand CD-ROM drives. The audio store down the street from you probably sold more audio drives than that this year. Similarly, far more digital video systems are going out as picture-in-picture systems (multiple channels on screen) for VCRs or televisions than with Macintosh-to-video interfaces. While Macs don't have to reach parity, we do need more volume.

The DOS camp may help. While some Mac partisans may see it as bad news that DOS machines are moving into Apple's turf, I see it as a way to increase volume, lower the costs and add to the range of offerings. That's why I am encouraged by some developments on the DOS side.

First was IBM's emphasis on its Audio Visual Connection boards and its multimedia software, such as PC Storyboard.

HeadStart Technologies Inc., the Great Neck, N.Y., affiliate of North American Phillips, showed the first mass-market PC with a built-in CD player. For about $2,000, you get a complete PC with an integrated CD-ROM drive, plus six discs of software and data. It's a plug-and-play solution. While the marketing is innovative, the unit is based on industry standards and thus will expand the compatible market.

HeadStart isn't going to get much price competition from Compaq, but the prestige leader of the PC side of the market is also beginning to put CD-ROM drives right into the case. At Comdex, Compaq quietly showed systems for vertical applications where access to large volumes of data is important. As far as I could find out, the drives and discs are also standard.

DVI news. Much of the talk on the PC side about digital video technology has centered on the Digital Video Interactive (DVI) technology originally developed by RCA and then sold to Intel. The chief embodiment of DVI is an emerging series of chips that will compress video to a rate that can be played from a CD-ROM or shipped over a network.

The first implementation took a mainframe and thus wasn't symmetric — you couldn't create the video on the same chips that it took to play them back. But now Intel is showing a new, symmetrical chip set that should even be available as a NuBus board for the Mac sometime next year, according to Intel.

This is supposed to be the era of *perestroika*, free markets and competition. So let's say "Welcome IBM," and may we all prosper together. □

Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.

1987 Macworld World Class Award

1988 Macworld World Class Award

1989 Macworld World Class Award

Turbo Mouse. Wins again and again and again.

That's right. For the third year running, the readers of Macworld magazine have voted the Kensington Turbo Mouse® "Best Input Device" for Macintosh® computers.

Who were the contenders? Every other trackball and mouse on the market. (Not to mention joysticks, keyboards and graphics tablets.) The winning secret? Simple.

Turbo Mouse is quicker, quieter, and easier to use. It delivers the winning combination of speed, precision, two buttons with extra features, and a comfortable, space-saving design—all for just $169.95.

For a free brochure, or a dealer near you, call (800) 535-4242. Outside the U.S. or in New York, call (212) 475-5200.

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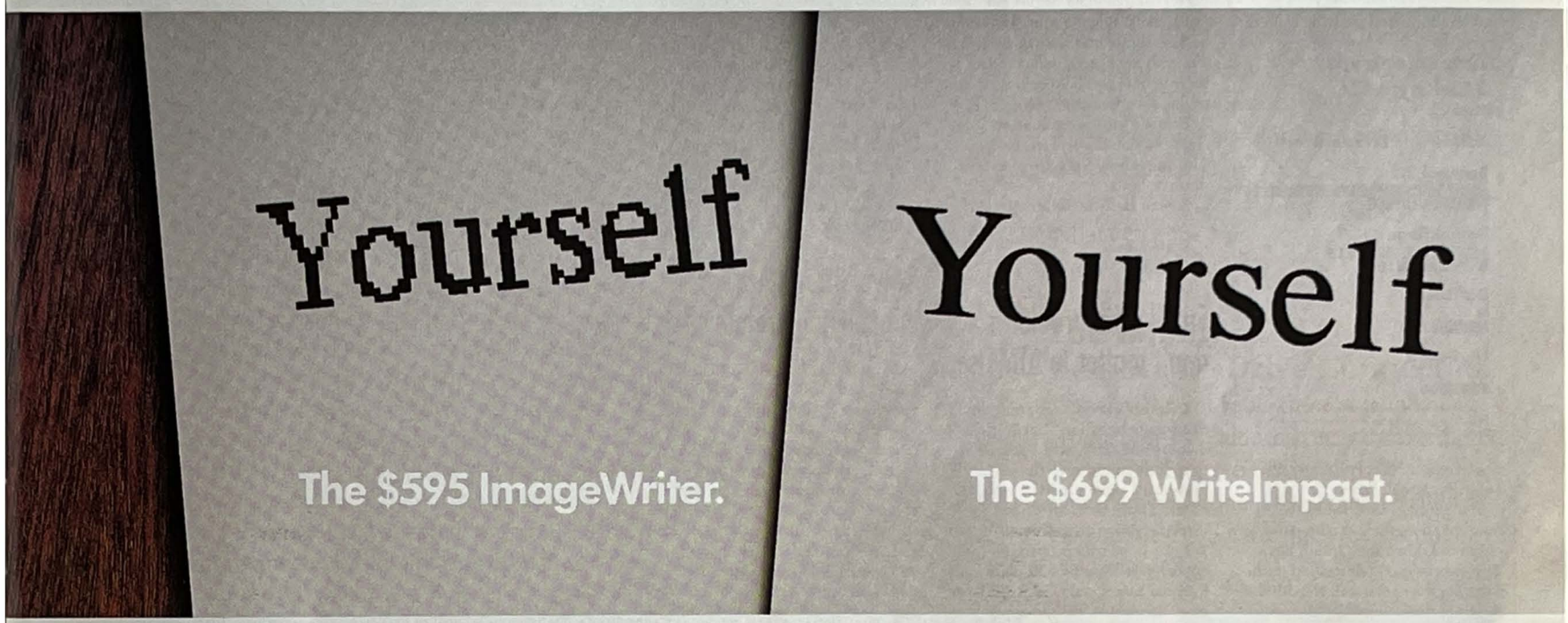
HOW TO MAKE YOURSELF LOOK BETTER.

Compare WriteImpact™ from GCC Technologies with the Apple® ImageWriter,® and you realize there simply is no comparison.

The difference isn't hard to pin down.

The ImageWriter is a 9-pin printer. WriteImpact is a 24-pin.



Which means, with WriteImpact, you get 24-pin letter-quality. With ImageWriter, you get 9-pin whatever.

In fact, with WriteImpact, you get incredibly high resolution — 360 dots per inch (dpi) horizontal x 180 dpi vertical.

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WriteImpact comes with something else the ImageWriter doesn't: 22 high-quality outline fonts. WriteImpact's outline fonts can be shaped, reduced or enlarged, rotated to any angle, and printed in a variety of point sizes — from 2 to 500 points (1/32" small to 7" high).

WriteImpact is just as versatile with paper. With multi-part invoices, you can choose push or pull tractor-feed. For letters, you can print on single sheets and envelopes without removing your tractor feed paper. There's also automatic paper loading and parking, plus a paper tear feature with automatic repositioning.

Ordering WriteImpact is pretty automatic, too. Just call the number below or visit your nearest GCC dealer.

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To order WriteImpact direct, just call 800-422-7777 from 9 AM to 9 PM (EST) on weekdays, or 10 AM to 4 PM (EST) on Saturdays. Our trained staff will answer all your questions and offer advice on any of our products. (Be sure to ask for our free catalog.) Orders received by 8 PM (EST) for in-stock items will be shipped the same day via overnight delivery for only $9.

Or, you can order WriteImpact from one of our dealers. Every GCC dealer is a Macintosh professional, and if you call, we can give you the name of the one nearest you.

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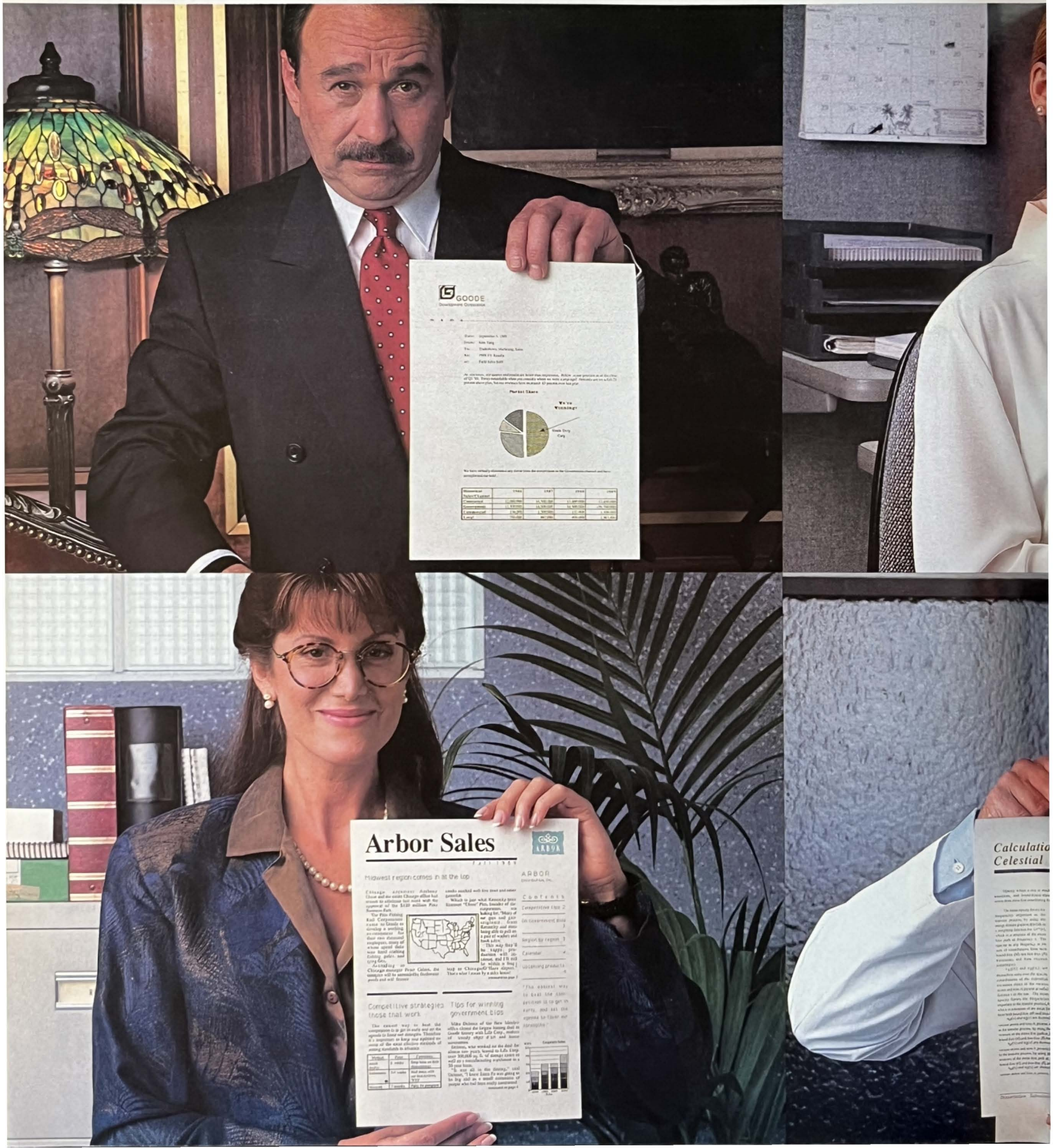
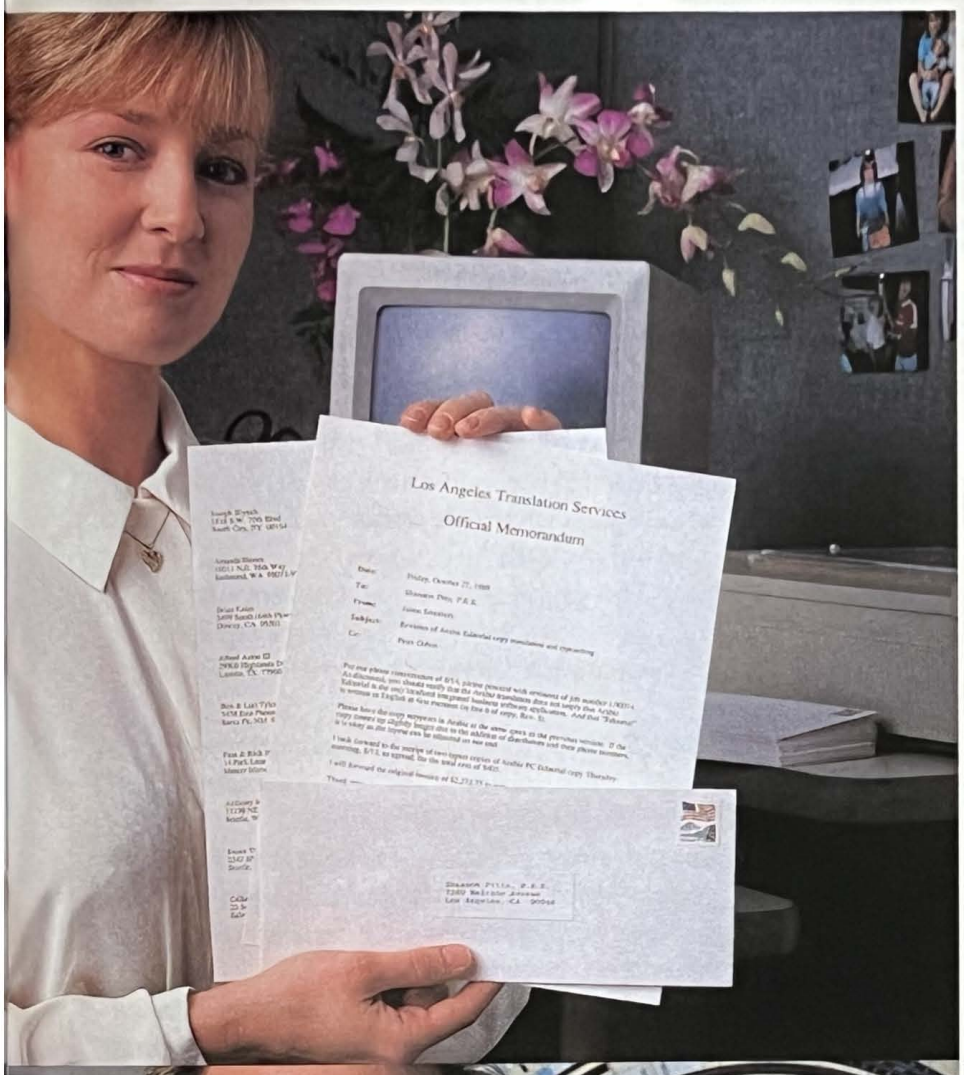
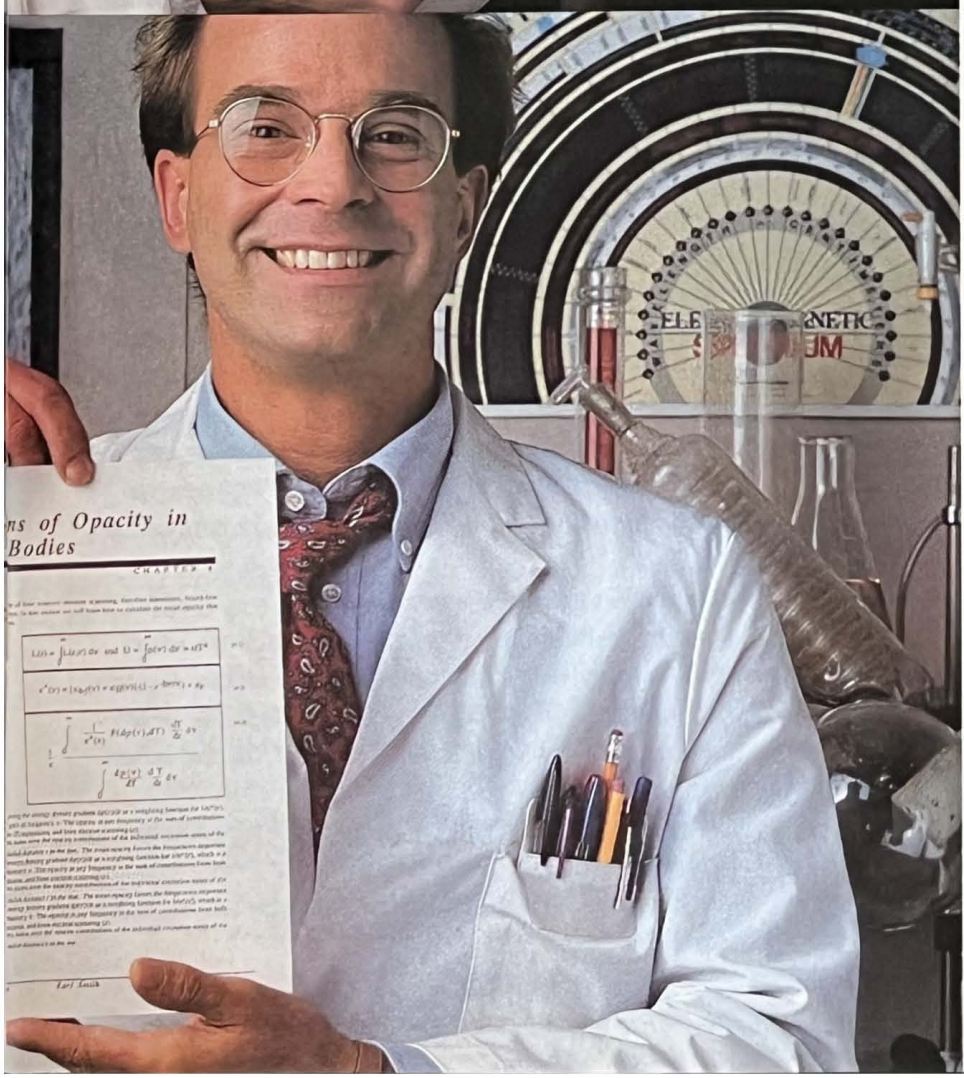
There's a Word fo



r people like you.





Whether you're a marketing maven on your way up, a scientist knee-deep in formulas, or a temp trying to cope with an unfamiliar corporate mindset, when it comes to putting thoughts to paper, Microsoft is the Word for you.

And our users aren't the only ones who think so. Recently, the editors of *Mac User* gave Microsoft® Word version 4.0 the highest rating of any Macintosh® word processing program. Period.

A move we weren't altogether surprised by. You see, besides being perversely committed to research and development, we use a highly sophisticated approach to improving our product. We listen.

All of which has led to innovations like Word 4.0's powerful Table feature, enabling users to create side-by-side paragraphs, lists and even forms, without the hassle of dealing with tabs.

And since there *are* other word processing programs, Word 4.0 provides connectivity to Microsoft Word version 5.0 for the PC, PC WordPerfect,® DCA and other file formats. So now you can share your work with those less fortunate than yourself.

What's more, Word 4.0 is uniquely capable of delivering even more performance when it's used with other applications. For example, even highly-educated executives can import Microsoft Excel tables and charts and automatically update them. Making it easy to ensure document accuracy. Plus, Microsoft Mail can be sent from within Word 4.0, significantly boosting workgroup productivity.

For something a tad more informative than this ad, call (800) 541-1261, Dept. J94, to receive a brochure or ask for the location of your nearest dealer for a demo. You'll find that no matter what type of word processing you're performing, you could be doing it better.

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BRAD BOWER/PICTURE GROUP

Richard Banse Jr., manager of administrative services at Environmental Resources Management Inc., said he hopes the graphics department's on-line services will prove to be the carrot needed to standardize graphics throughout the company.

Establishing a graphics standard

How do you ensure that a company with 44 affiliate offices presents the same image to all its clients with the least amount of difficulty?

By Craig Zarley

In business documents, style can be as important as content. Nowhere is this more evident than at Environmental Resources Management Inc., one of the world's largest environmental consulting companies. Headquartered in Exton, Pa., ERM annually produces thousands of reports on subjects as diverse as the design of a hazardous waste disposal site and the monitoring of ground water.

"When we create a document, it has to look superior. It has to look like we know what we're talking about," said Richard Banse Jr., manager of administrative services at ERM. "And we want a distinctive yet consistent look to all reports so that when a client picks up a report, he will recognize it as an ERM document."

To achieve those goals, the company wants to provide a Macintosh to every employee at its headquarters. There are already more than 200 Macs in use there, and more than 70 will be added next year. Further, hundreds of Macs are in use at the company's 44 affiliates operating in 23 states and 31 countries.

Since 1986, revenues have surged from $22 million to a projected $150 million for fiscal 1990, and the number of employees has grown to more than 1,000. This explosive growth, coupled with the extensive use of Macs, has made it difficult to establish and maintain a graphics standard within the organization.

Each affiliate is free to develop its own set of clients and produce its own reports. Further, the company does not have a strict corporate hierarchy. Instead, individuals make their own business decisions, including how to incorporate graphics into their reports.

This decentralized structure and the Macintosh's tendency to tempt anyone — regardless of talent — to create graphics, has put a roadblock in ERM's quest for a corporate graphics standard. "Because the Mac is so friendly, everyone who uses one thinks he or she is an artist," Banse said.

So while environmental reports may be attractive, they don't offer the intangible benefits of a consistent style, a problem akin to the Wall Street Journal randomly switching its front-page layout to resemble USA Today's.

Setting a graphics style. To establish a consistent style, the graphics department is creating a library of maps, charts and other artwork that will reside on the graphics department's AppleTalk file server. When engineers need a piece of artwork to illustrate a report, they can access the graphics library from their own Macintoshes. Affiliates also will be able to tap into the system using high-speed modems and Microsoft Mail.

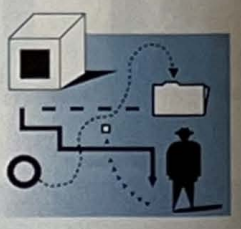
Already, the graphics department has placed many of the standard drawings used by the company into Microsoft Word. Since the drawings reside on a central file server, secretaries or consultants typing reports can insert illustrations directly into the document as they type. Previously, blank spaces were left for drawings that were later pasted into the document. Or, if the desired graphics can't be found, artists in the graphics department can design the artwork and send it directly to the field by modem. And as each new piece of art is created, it will be added to the library.

"The problem we have right now with the affiliates is that the left hand doesn't know what the right hand is doing," Banse said.

As a result, consultants in the field sometimes create their own illustrations simply because they don't realize that the artwork they need already exists elsewhere in the company.

But by having artwork in one

See Standard, Page 36



One-minute MANAGER

Martin Marietta tests X.400-compatible E-mail applications

Chantilly, Va. — With nine X.400-compatible electronic-mail applications under evaluation, Martin Marietta Corp. is pushing end-user communications to its limits.

Martin Marietta, like other major Pentagon contractors and thousands of other companies doing business with the government, faces an August 1991 deadline to support the X.400 standard for all E-mail traffic with the Department of Defense. After that date, most federal agencies will buy only hardware and software that is certified to be X.400 compliant.

"There are approximately 60,000 people in the company," said Chris Gladwin, manager of electronic-mail standards. "Someone's going to have to install new [E-mail] packages and train them. We want to have a first-class understanding of X.400 because we see the potential E-mail audience as everybody in the company" as well as thousands more outside.

To that end, Martin Marietta is undertaking a novel pilot project to test and help design application software that will make Martin Marietta a leader in the X.400 communications revolution, which experts predict will occur during the next year or so.

According to Gladwin, the Computing Standards department pilot project is intended to build a cadre of about 100 "experts" on X.400 within Martin Marietta who will, in turn, train employees throughout the company.

The international standard, adopted in 1984 but not yet widely used, provides a full set of features giving users the ability to send multipart messages made up of text, data, voice and images, all wrapped in an X.400 envelope. In addition to computers, delivery can be to fax machines or telexes.

One X.400 feature that has attracted wide interest is called electronic data interchange. EDI allows the transmission of information within identical or similar formats, such as data in the fields of a purchase order, without the need to send a file that includes the order form itself.

According to Gladwin, X.400 applications are being brought into the corporation to help standardize an E-mail delivery system that will link the four major sites in Washington; Denver; Orlando, Fla.; and Oak Ridge, Tenn.

One product being evaluated is RetixMail, a Macintosh application from Retix of Santa Monica, Calif., which Gladwin describes as a "native X.400 application" that creates an X.400 envelope at the desktop. Retix's software runs on LAN servers that support Mac and IBM-compatible PCs. RetixMail is the only product of the nine under evaluation that has been announced.

Gladwin said he believes mature applications that provide a "high-performance, reliable, feature-rich" E-mail environment won't be widely available for at least a year.

With nine X.400 vendors' products under evaluation already, "this is not a niche market; it's a big market. As a customer, I'm really looking forward to the competition."

Falcon provides training to private sector

Landover, Md. — Falcon Microsystems, Apple's primary reseller to the federal government, now offers training around the country to private companies. In addition to Falcon's training facility in Crystal City, Va., outside of Washington, the company has opened new classrooms in Denver; Los Angeles; Ridgecrest, Calif.; and Redwood Shores, Calif.

According to the company, it offers classes on more than 70 Mac-specific topics. Enrollment generally is limited to 10 students per class.

Falcon Microsystems is located at 1801 McCormick Drive, Landover, Md. 20785; (301) 341-0100.

...RAGED USTOMER SEIZES ALIEN FLYING DISK AND BEATS COMPUTER SALESMAN SENSELESS.

The victim: "It was my fault! I deserved it. But I didn't mean to, I swear!"

(reenactment)

Alleged cause of the bizarre attack: the Rival. A better-performing, less expensive display for Macintosh computers.

It was all too much for Gordon Lewis of Dishman, Washington. When, after paying nearly $2,100 for a large screen display for his new Macintosh computer, he read in an ad that he could have bought a better system for about $400 less, he flew into a rage, drove straight to Bob 'n' Brian's Computers 'n' Stuff., grabbed the nearest weapon, a 5-1/4" Flight Simulator floppy disk and proceeded to pummel his salesman into senselessness.

The weapon

Police were called to break up the scuffle, but Brian Girvins, Manager, declined to press charges: "We didn't know about the Rival ourselves, or we wouldn't have been pushing these expensive brands." He muttered.

"We owe Gordon a debt of thanks for bringing the Rival to our attention. Although we wish he'd just called and told us on the phone."

"These computer users are a feisty bunch," Police Chief Aldo Malmstein said." We've had a few of these cases lately, all stemming from customers overpaying for computer equipment and finding out later how much they could have saved."

Keep your name out of the papers.

You have a right to be mad if you pay too much for a big screen display. But a no-name, budget system isn't the answer, either.

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Rival is the latest version of the MegaScreen **rated Number One** by Macworld, May '89. Its 1024 x 826 resolution at 75 dpi is flicker-free, thanks to 75Hz performance. And the image is bright and clear on the high-quality Zenith monitor. Rival comes complete with a built-in tilt-and-swivel base, cable and controller.

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– Carol Stieglitz, Graphic Designer

"Our Rival is great. The price nabbed us. We shopped around, and it was far and away the best value."

– Shannon de Herrera, Publisher

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Standard

From Page 34

place, the graphics department can maintain a consistent style and quality.

"People in the company don't want to be told what they can or can't do," said Jeff Gorham, an artist in the graphics department. "What we want to do is provide an electronic-art support system where people can get solutions to their problems quickly."

Thus the graphics department is betting that superior service rather than coercion will be the deciding factor in establishing a graphics standard. If people know there is a source where they can quickly obtain the graphics they need, they won't reinvent the wheel.

"The company has a reputation for speed, and sometimes we need to get artwork to affiliates in a matter of minutes or hours rather than by overnight mail," he said.

A central repository. There are six artists in the graphics department, a number that, because of the Mac, has remained constant for the past two years even though the workload has tripled, according to Banse.

Artists use two Mac Pluses, two Mac SEs and two Mac IIs to create graphs, charts, maps and illustrations. One Plus equipped with a Rodime 100 Plus hard drive acts as the file server for the graphics department's AppleTalk network. StarControllers from Farallon Computing Inc. hook the graphics network to other AppleTalk networks at corporate headquarters. Artists use Claris' MacDraw II, Aldus PageMaker and Adobe Illustrator 88, among other graphics and desktop publishing software.

As for establishing a graphics standard among users at the corporate headquarters, the issues are more organizational than technical. Users can easily tap into the graphics file server over the AppleTalk network.

Banse said he is not worried about the limited speed of AppleTalk. Because the graphics, such as a diagram of a soil profile, are relatively simple, they don't suffer from slow transmission.

"We have a tremendous investment in AppleTalk, and it will meet our current need," he explained. "But we will be moving into a new corporate facility in 1991, and that will give us the opportunity to re-evaluate our network topology." Additionally, the graphics department has written a style manual and created a pull-down menu within Word that gives users default formats so that text in ERM reports features uniform fonts, spacing and headline styles. Banse is also in the process of adding a desktop publishing coordinator to the graphics department. The coordinator will answer any graphics-related questions.

Quality control. By providing uniform support, Banse hopes to enforce a uniform graphics standard.

"We can't go out and say no to what people do, but the style manual and the desktop publishing coordinator will help give teeth to quality control," he said.

A more ambitious task will be to enforce the graphics standards in the field. The first hurdle is to establish a link between Macintoshes in the field and the graphics library at corporate headquarters. The company is installing Hayes 9,600-bps modems equipped with a TeleBridge from Shiva Corp. in select affiliate offices. The TeleBridge device features two ports, one to connect with the modem and the other with AppleTalk. The result is a transparent AppleTalk-to-AppleTalk connection between the field and the graphics library at corporate headquarters.

Brad Bernosky, sales manager at The Computer Forum, the Malvern, Pa., dealer installing modem links in the field for ERM, is confident the system will work. "With the TeleBridge in the modem, a person in the field can sit down at his desk and have access to AppleTalk networks at headquarters as if they resided in the field office," he said.

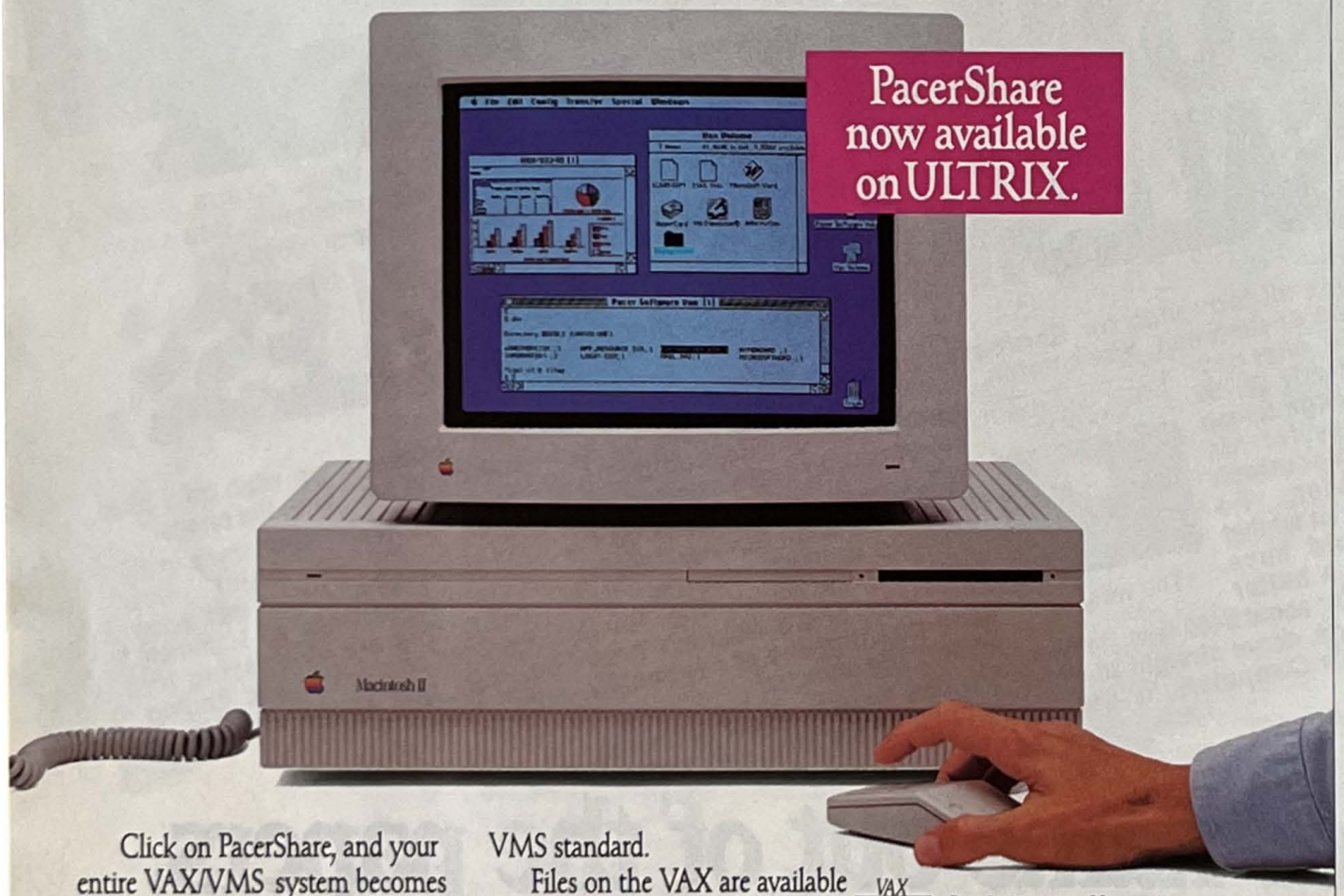
Because of the need for a quick turnaround in graphics, Banse is convinced that simply having on-line access to the graphics library will prove a boon to the affiliates that now must either wait for disks to be sent by overnight mail or spend time trying to illustrate their own reports. And with a communications link to the field, Banse hopes to promote other services to entice more people to rely on the graphics department for artwork.

"We have a scanner here in the graphics department," he said. "If word gets out that we have one and it's available to people in the field, they won't have to buy one of their own."

Banse said he hopes the department's online services will prove to be the carrot needed to standardize graphics throughout the company. If more people use the department for their graphics needs, the department can stamp a uniform imprint on all documents produced by the company.

"Our ultimate goal is to create a paperless environment in which nothing gets printed until the final draft is ready," he said. "ERM has a reputation for the speed with which it can produce an environmental study. The electronic production of reports will enhance that reputation, but a consistent look to the graphics will never make a report appear to be a rush job," he said. □

Click on VAX power.



Click on PacerShare, and your entire VAX/VMS system becomes an immense AppleShare-compatible file server. Mac users gain tremendous speed, system-wide connectivity and VMS back-up procedures without ever leaving their icons!

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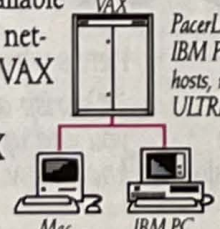

PacerLink connects Macs and IBM PCs (and compatibles) to many hosts, including DEC VAX (VMS & ULTRIX) and several UNIX systems.

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Tech Files

Comm Toolbox: Bonanza for big sites

The Macintosh Communications Toolbox will be a part of System 7.0 that remedies several of the Mac's serial communications deficiencies and provides a modular software architecture for a wide range of Apple and third-party products.

The Comm Toolbox will affect how developers write communications software. The new standards also will open opportunities for developers of communications hardware, such as modems or serial ports connected to LocalTalk networks, or internal serial port expansion boards.

Perhaps most far-reaching, the Comm Toolbox may create a new class of applications that are not primarily communications products but use communications as part of their function.

This potential should be especially interesting to the in-house developer. Instead of writing communications routines, you simply call existing routines from the toolbox. Thus, you can concentrate on the specific capabilities you need, such as mainframe data retrieval.

BY JOEL WEST

The Comm Toolbox may prove most useful for those sites connecting Macintoshes to mainframes and minicomputers. Tie-ins to Digital Equipment Corp.-based networks also are planned. And while the Comm Toolbox won't replace gateways between LocalTalk and Ethernet networks serving Unix workstations, it could be used to provide reliable mail-forwarding between Macintosh and Unix mail systems.

Products that take advantage of the Comm Toolbox can be divided into three categories. At the highest level, applications (such as a terminal program) call the Comm Toolbox to perform communications operations. At the lowest level, drivers allow the Comm Toolbox and compatible applications to use specific hardware.

In the middle, three managers provide a standard user interface (used by applications) for selecting plug-in "tools" in the System folder. The Connection Manager lets you select a particular serial port, its transfer rate, parity and so on. Apple supplies a modem tool (among others) that handles such details as tone or rotary dial for a Hayes-compatible modem.

The Terminal Manager controls the emulation characteristics of the terminal tools, such as the Local Echo and Screen Width settings.

Finally, the File Transfer Manager controls tools that implement serial file transfer protocols, such as Xmodem or Kermit.

Additionally, Apple has provided a way for hardware developers of products such as NuBus serial port cards or network modems to register their device-specific drivers with the Comm Toolbox. This permits any Comm Toolbox-compatible application to directly select hardware ports.

Such mix-and-match flexibility will be an important factor behind the power of the Comm Toolbox once it is adopted and supported by the various communications software developers.

For example, a vendor with an established proprietary communications protocol, such as Communications Research Group with its MacBlast, could site license a Macintosh file transfer tool with its mainframe communications software. MIS directors could choose to combine that protocol with the terminal program that best meets their users' needs.

Although the Comm Toolbox is available before System 7.0, its immediate effect is uncertain. Will Apple promote a list of products compatible with the Comm Toolbox? Will most developers offer Comm Toolbox versions of their products now? Or will Apple, its developers and its customers hold off until the Comm Toolbox ships with System 7.0?

Certainly Apple has not finished integrating the Comm Toolbox with the rest of its software architecture. AppleTalk, the Printing Manager and MacWorkStation should be extended to use serial ports via the Comm Toolbox. And the Comm Toolbox does not yet provide a standard for the crucial problem of port allocation.

But, unlike other areas of system software, there are no competing standards announced or on the horizon. For any in-house developer, the time to evaluate the Comm Toolbox is now. □

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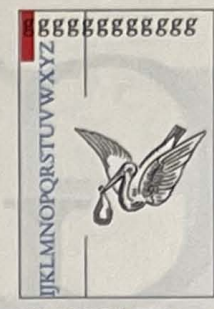
MacWEEK'S GRAPHIC ARTS REPORT

12 December 1989

1989: A good year for graphics



What 1989 brought us in font technology.
See Page 44.

32-bit color ... and more.
See Page 44.

Multimedia: Here to stay?
See Page 45.

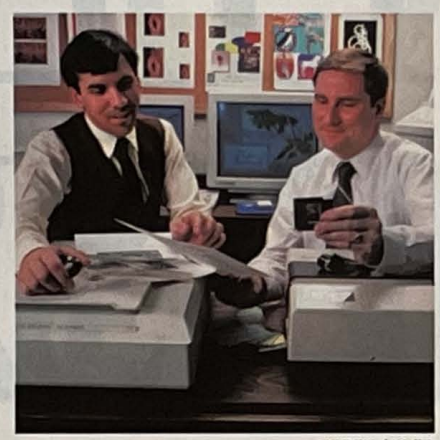
DTP testing lab to open in Boston

By Amy Bermar

Boston — SIS Inc., an authorized Apple training center here that serves about 125 students a month, plans to have the city's only membership-based product testing lab in place by the first quarter of next year.

The SIS Applied Technology Center for Printing and Publishing will allow corporate and individual members to experiment with a variety of publishing hardware in a realistic production environment, said company executives.

"Anyone shopping for high-end publishing systems based on Apple equipment is faced with a variety of scanners, typesetters, laser printers, accelerators, color monitors and disk drives — and they find themselves pretty much on their own," said Jeffrey Hees, sales and marketing manager of SIS and co-creator of the testing lab along with Greg Wallace, SIS president. "But by demonstrating how the various pieces work together, these professionals can get information to support the decisions they must make."



RICK FRIEDMAN/BLACK STAR

Greg Wallace and Jeffrey Hees, co-creators of Boston-based SIS Inc., are turning their company's training center into a hands-on electronic publishing hardware lab in the first quarter of next year.

Graphic artists and designers appear to be greeting the lab with enthusiasm.

"There are very few opportunities for designers to get in and use state-of-the-art technology without buying it," said Judy Richland, president of the Boston chapter of the American Institute of Graphic Arts (AIGA).

And with complete electronic publishing systems ranging in price from about $15,000

See Product lab, Page 43

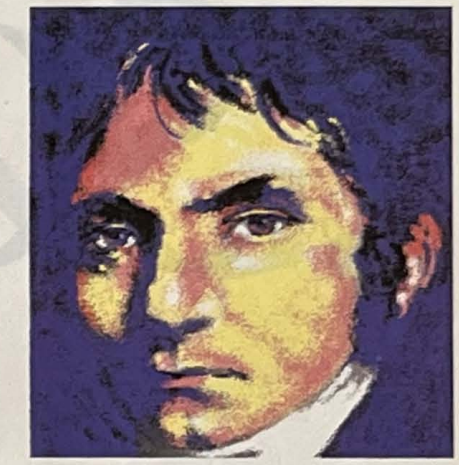
SF AIGA seminar draws 300

By Anita Malnig

San Francisco — "I'm just another bozo on the bus when it comes to this computer stuff," said graphic artist April Greiman as she tried to demystify the Mac at the first in a series of seminars on Macintosh design held by the San Francisco chapter of the American Institute of Graphic Arts.

The chapter, responding to high Mac interest among its members, is sponsoring "Mysteries and Miseries of the Macintosh Computer in Graphic Design," a three-part series. "Approaches and Aesthetics," attended by about 300 people, opened the series Nov. 7, followed by "Type and Typography" Nov. 14. The final session, "Product

See AIGA, Page 43



A young Ludwig van Beethoven (above) and Gustav Mahler (left) rendered in Electronic Arts' Studio/8, shown at the AIGA meeting Nov. 7, which drew a standing-room only crowd.

Cronan Design was commissioned by the San Francisco Symphony to design its 1989-90 subscribers' brochure. Michael Patrick Cronan scanned public-domain line drawings of the composers into his Mac IIcx, then airbrushed them with Studio/8. Under the guidance of technical designer Robert Schwarzbach working with ReproMedia service bureau in San Francisco, the PICT format images were transferred into a Visionary system on the Mac IIcx and from there sent to a Scitex. PageMaker text and other photos in the brochure also were sent to the Scitex via Visionary, where all elements were stripped together. The printer on this project was PacificLitho of San Francisco.

Time finds missing link in Scitex STIL

By Stuart Silverstone

New York — Time magazine is using a new Mac-based software link to its Atex text-processing system to complete the design and layout of pages made with Scitex Visionary, a specially configured version of QuarkXPress.

The Scitex Text Information Language (STIL), priced at $50,000 for a site license, was created by Bedford, Mass.-based Scitex America Corp. with QuarkXTensions, technology developed by Quark Inc. of Denver.

"STIL is a vital missing link," said Eileen Bradley, technology manager at Time. "Now, for the first time, there is a cost-efficient design and layout platform that can also send coding to the editorial system."

Since 1982, Time has used the Scitex Vista minicomputer-based design system to create pages and forward copy-fitting and geometry codes to its Atex system. "With Visionary and STIL on a Mac network, Time has about six times the design capacity of Vista, for about 60 percent of Vista's cost," Bradley said.

Residing on the Macintosh, the STIL software feeds data created in Visionary to the Atex for copy fitting and final page makeup using Atex's MagPage program. With the new tool, researchers, writers and editors receive accurate line counts, column widths and information for wrapping text around illustrations, which helps them fit copy using the Atex terminals on their desks.

Edited text elements are positioned on each page using x and y coordinates forwarded from the Mac to Atex.

When the system is completed in January, text from the Atex will be passed directly to Time's Scitex pre-press system, where the Macintosh's Visionary layout will have been received, merged electronically with photos and artwork, and then printed on high-resolution imagesetters.

"Now you can capture the creativity of a designer without having to replicate the work mechanically," said Howard White, Scitex's STIL product manager.

Besides saving time and money, STIL lets Time remake pages quickly to cover late-breaking news stories, according to Bradley. "This represents a viable solution for publishers with Scitex systems."

STIL is not limited to interfacing with Atex systems but can also be adapted to other traditional minicomputer- and microcomputer-based editorial systems, such as those by Penta, Compugraphic and Bestinfo. □

Boldface EZRA SHAPIRO

And the winners of the Ezzies are ...

December is a cruel month. Winter sets in, Santa readies lumps of coal for naughty boys and girls, the New York Jets are again statistically eliminated from the playoffs, and it's time for the annual Ezzie awards, my own informal recognition of the year's high and low points in desktop publishing and graphic design.

Be it noted that 1989 marked an important turning point for the industry. Despite the usual run of calamities and product introductions, things seem to have quieted down from where they were a year ago. The reason for this state of grace is really pretty simple: Graphic output is no longer surprising razzle-dazzle stuff; it's core technology. Rather than being blown away by products with design features, we have become critical of those products that lack them. What has changed is our perspective, and the shift in viewpoint is undeniably the significant trend of 1989. But even though the industry is now evolving rather than revolting, there are still plenty of fish in the barrel begging to be shot. So with my tongue stuck halfway back in my cheek, I offer the Second Annual Ezzie

See Boldface, Page 42

AGFA COM
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SOME SPEE

There's been a lot of fast talk lately about PostScript® imagesetter speeds.

So we'd like to set the record straight, courtesy of the Seybold Report on Publishing Systems. Their tests showed that the AGFA Compugraphic CG 9600-PS was faster than the Linotype L-300, in six out of eight typical jobs.

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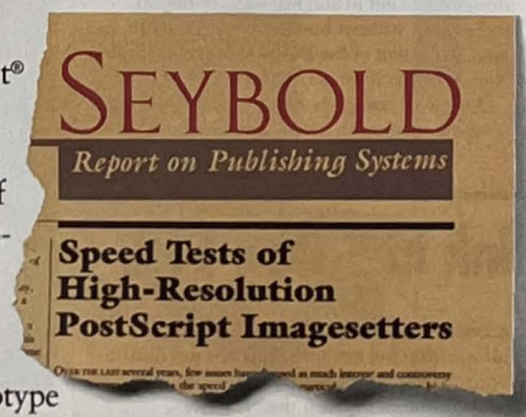
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Report on Publishing Systems

Speed Tests of High-Resolution PostScript Imagesetters

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POSTSCRIPT IMAGESETTER COMPARISON CHART*

MACHINE	RES. (dpi)	PRICE	CLIPPATH	ROSETTE	SMALL	MONO 1	35 FONTS	NO PIX	WITH PIX	TROUT
Agfa CG 9600	1,200 dpi	$68,000	1:30	0:57	0:59	4:38	1:19	3:01	12:23	16:10
Linotype L300 RIP III	1,270 dpi	$75,000	2:03	0:57	1:06	5:29	1:55	3:13	10:24	17:06
% Difference			27%	0%	11%	16%	31%	6%	(16%)	5%

*Source: "Speed tests of high-resolution PostScript imagesetters," Seybold Report on Electronic Publishing, September 11, 1989. PostScript is a registered trademark of Adobe Systems, Inc.

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- ❑ I'd like to know more. Please send me more information.

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Anderson & Lembke, Inc.

Boldface

From Page 39

awards. Read 'em and weep, but don't take 'em too seriously.

The Sandlot Revelation Award. To John Warnock of Adobe Systems Inc., who discovered that owning the ball and bat doesn't mean the other kids will let you make up all the rules as you go along.

The Joe Isuzu Testimonial Prize. To Regis McKenna, profiled as a "typical" OmniPage user in a Dewar's-style print ad for Caere Corp. McKenna's firm is Caere's public-relations agency.

Worst Butchery of the English Language in a Press Release Award. To the writer at Daystar Digital who decided that "incenting" means "providing an incentive." I was so irritated I wanted to explete.

Most Impressive Product Launch Award. To Informix's Wingz, a spreadsheet with excellent graphics capabilities. We jeered at the overblown hype and frequent delays, but when the product shipped it fulfilled all the promises. Anyone at Ashton-Tate listening?

The 1989 Peanut Prize. To any product or group of products that cause major industrywide confusion and/or paralysis while still vapor, named in not-so-fond memory of IBM's infamous PCjr. To Apple, for its System 7.0 announcements. Manufacturers and buyers alike are waiting for the centipede to drop the other 99 shoes.

Product of the Year Award. To MacroMind Director. Marc Cantor may never let me hear the end of this, but I've gotta say it. Nobody with a real stake in presentations should be without it.

Most Intriguing Hardware Entry. To the Personal Iris from Silicon Graphics. At only a few grand more than a loaded Mac system, this 3-D graphics workstation is already more than acceptable for color pre-press work. Given the right software tools, this machine could become the computer of choice for illustration.

Best Low-end Printer Award. To GCC's WriteMove! inkjet ImageWriter substitute. Fast, quiet, portable. A true team effort: original technology by Hewlett-Packard, printer design by Diconix, Macintosh modifications by GCC. This award would have gone to H-P's DeskWriter if the ink it used weren't so water-soluble it nearly dissolves on a foggy day.

Best High-end Printer Award. To the Kodak XL 770. Continuous-tone color prints from your computer, for a mere $25,000.

Sorta the Best New Utility Award. To Adobe Type Manager. Not perfect, certainly no match for Display PostScript running on the NeXT cube, but a faltering step in the right direction. Had this program been devised by anyone but Adobe the entire Mac community would be falling on its knees in thanks.

Most Interesting New Concept Award. To Frame Technology, which demonstrated simultaneous multi-user access to DTP layouts over a network. Could represent a way to reinstate the bullpen strategy for art departments.

Least Interesting New Concept Award. To The HeloCar. Apple's midyear marketing fiasco is gone and, fortunately, forgotten. If you have no idea what I'm talking about, you're not alone.

Best Book Award. To "Typographic Communications Today" by Edward M. Gottschall, MIT Press. If you don't own a coffee table, buy one, if only to hold this thorough overview of the state of print design.

Quote of the Year Award. To "How many people really need to kern in thousandths of an em?" by Lisa Wellman of Letraset USA.

Least Unpleasant Trade Show Award. To Macworld Expo Asia. Well-organized, friendly. Why can't stateside shows be this good?

Oldest New Idea of 1989 Award. To scaled-down desktop publishing software targeted at non-designers. Why not just revive earlier versions of the huge, feature-laden products we're now using? Maybe those programs weren't as obsolete as we were told by their manufacturers when they were trying to convince us to upgrade.

Worst Names Award. To Wingz, Nisus.

Ugliest Wearable Award. To the Aldus World Tour '89 sweatshirt. Ghastly purple on white. They should know better.

On-line Hypocrisy Prize. To CompuServe and GEnie, which are still assiduously policing their download libraries for pirated software, while allowing free commerce in stolen graphic images. This is the second time I've had to give this award. When are the on-line services going to accord graphic artists the same respect for intellectual-property rights that they grant software authors?

Best Software Promotion of 1989 Award. Lest you think all those freebies at computer shows are a waste of money, note that a year ago a burglar broke into my place, stole some jewelry and a couple of tape recorders, and fled the scene carrying a red Wingz bag and wearing a baseball cap that read "Microsoft: The Winning Line-up." So during 1989, these two software companies have received exactly the kind of visible publicity I'm sure they've always dreamed about. More next year. □

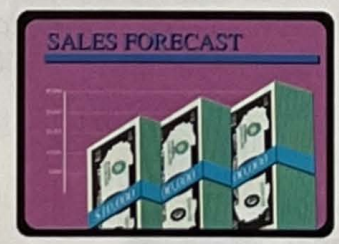
Multimedia defined.

Now with MacroMind.®

Mul-ti-me-di-a
(mul ti-me de-e) *noun*. Involving the use of several media of communication, expression or entertainment. **1.** From the Latin word meaning more than one medium; to combine text, graphics, animation, sound and video for improved communication. **2.** The integration of several media when presenting, instructing or simulating concepts and ideas. **3.** Extremely effective when attempting to keep an audience "awake." **4.** Dangerous when used by competitors. **5.** The complete solution is available now—only from MacroMind—developers of the world's most flexible multimedia presentation and animation software tools.

There's more to this definition than meets the eye. MacroMind *Director*™ really delivers on the promise of communicating important ideas and concepts—going beyond words and pictures to engage all of the senses with exciting sound, animation, even video.

For anyone who uses a Macintosh® to present, instruct, simulate—or in some instances *stimulate*—MacroMind *Director* can help you to set your most *sound* ideas in *motion*, adding a whole new dimension to your most essential work. It's the one software application that allows you to go beyond conventional media—unleashing a *powerful* new way to comprehend and share ideas.



Add an extra dimension to all of your important business presentations.

When presenting a case.

MacroMind *Director* can do amazing things for you when it comes to making business presentations—especially when share of mind, ear, body and soul is the main objective.

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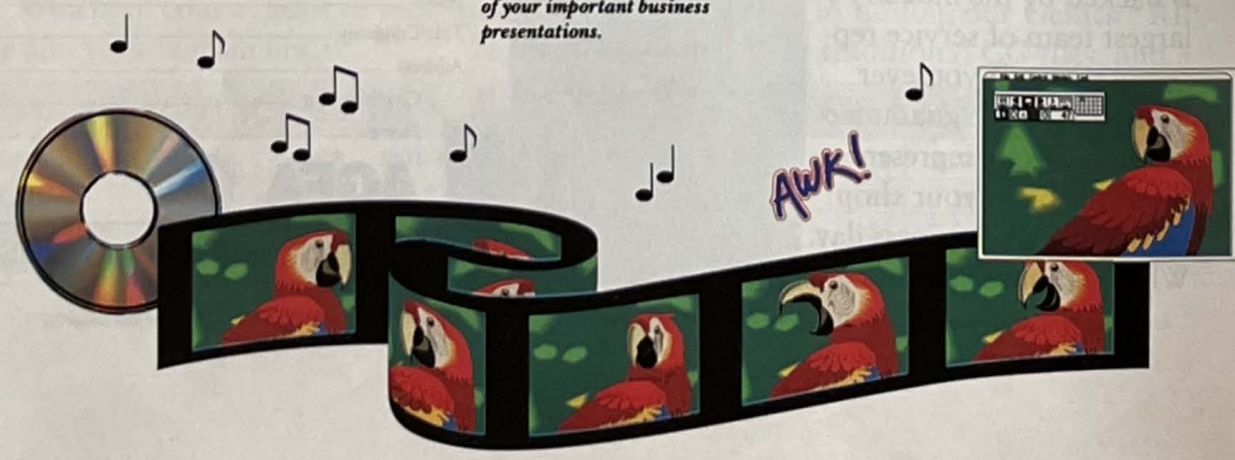


Take advantage of MacroMind Director's powerful paint tool to add "life" to any animation.

AIGA

From Page 39

and Protection," will be held Dec. 12.

At the first session, the combination of skepticism from moderator Michael Vanderbyl, honesty among the panelists — Greiman from Los Angeles, Michael Patrick Cronan and Clement Mok, San Francisco graphic designers — and an audience worried about the lack of regard for designers among Mac software developers, as well as the limits of computer typography, produced a high-spirited evening.

Greiman, who began working with computers in the early 1980s after she grew bored with traditional design, said she was "sick to death of talking about computers" and encouraged the audience to experiment and discover the computer's own language.

Cronan, who designed and beta tested the Studio/8 packages from Electronic Arts of San Mateo, Calif., and who often uses the Mac in combination with a Scitex, admitted to "several expensive failures."

"I look at my learning not as a curve but as an orbit," he said, "and there's more on the horizon."

The panelists' work, from Greiman's Museum of Modern Art poster to Mok's HyperCard stacks, prompted a young designer to ask, "How long will it take us to do what you guys do?" Mok discussed his move from traditional design to becoming "enamored of the Mac" to, again, experimenting. Cronan's response was to "start thinking in terms of a new architecture — or hire a technical person."

Concerned with the "developer" problem — the perception that developers have little thought for designers' needs — Kathy Wright, a senior art director at Tandem Computer of Cupertino, Calif., asked, "Don't you guys have enough clout to tell them how to do things?"

From Cronan answering that "the bastards won't listen" to Mok saying that if he "screams loud enough they do listen," the audience was told it shouldn't jump headlong into buying expensive equipment and should contact companies to offer input on what they would like to see.

That last sentiment was echoed during the second session on type by panelists Sumner Stone, director of typography at Adobe Systems Inc. of Mountain View, Calif.; Matthew Carter, vice president of Bitstream Inc. of Cambridge, Mass.; and Kris Holmes and Charles Bigelow, principals of the Bigelow and Holmes type house of Menlo Park, Calif. San Francisco designer Tom Ingalls moderated.

The panelists discussed how they think about, draw and digitize type, and gave the audience a historical look at type. "Humanistic Bookhand," said Holmes, "is still the most influential typeface today."

Yet there are contemporary problems to solve, such as "how to do a good face at both high-res and low-res [output]," Holmes said. She and Bigelow discussed their Lucida face, which, they said, fills that need.

Ingalls wanted to know when Mac kerning and letter spacing would equal "pre-Mac" type and was told by Stone to "make a lot of noise to developers."

Finally, the "System 7.0 Royal font vs. PostScript" question arose. "It's just another format," said Bigelow. "It'll have essentially no impact on the look of the type."

Stone added that the resulting increased competition between Apple and Adobe can only be good for designers, and Carter said that System 7.0 has a lot of potential. "I'm impressed with what I've seen," he said.

The San Francisco American Institute of Graphic Arts can be reached at (415) 974-5911. □

Product lab

From Page 39

to more than $100,000, there is a real need for such a lab, according to Wallace, who added that SIS has already assembled about $400,000 worth of electronic publishing hardware for its training and demonstration sessions.

Among those users and professional "partners" being asked to participate are the AIGA, the Boston Typographical Union, the Graphic Arts Teachers Foundation, Massachusetts College of Art, New England School of Art & Design, Northeastern University and SIS' printing and publishing council.

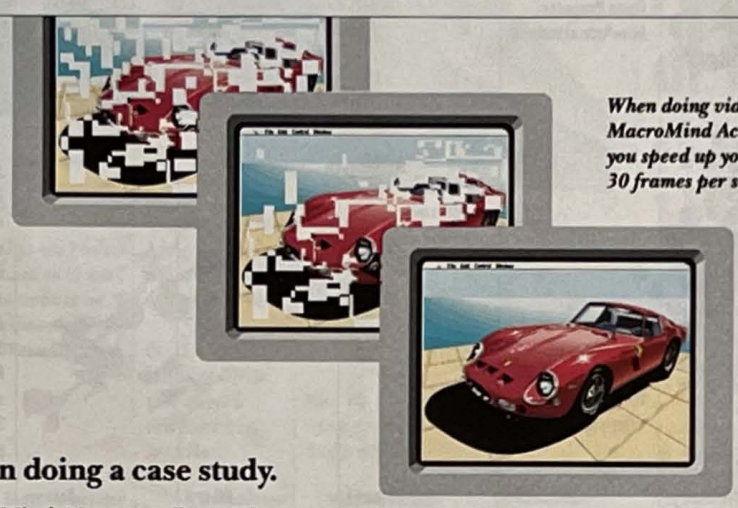
Product manufacturers are now being asked to donate equipment, according to Wallace. In exchange for contributing products, he said, vendors will receive essential information about publishing professionals' response to their products.

"It gives them a multivendor demonstration unit," Wallace said. "And people they consider to be sales prospects would be in here, seeing their products in real-life situations."

The company hasn't established a policy regarding whether it would grant any manufacturers an exclusive right to show their products in the lab. Wallace said SIS is forming an advisory board to establish guidelines.

"We're a non-commercial pool of information," he said, "and the vendors have to understand that."

SIS Inc. can be reached at (617) 720-5500. □



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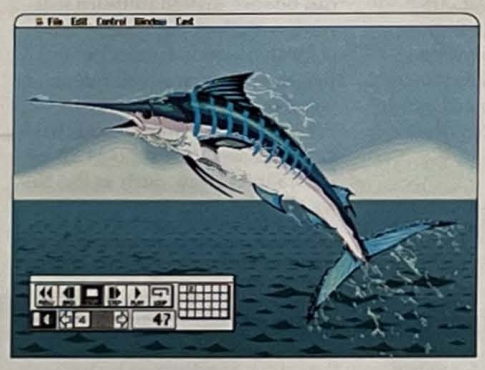

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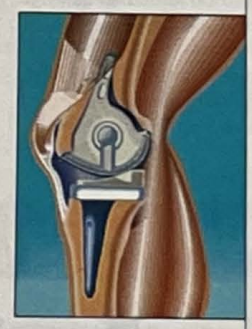

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MACROMIND

the multimedia company

GRAPHICS '89: SETTING THE SCENE FOR THE '90s

From the riot of 16.7 million colors touched off by 32-bit color QuickDraw to Steve Perlman's computer/video magic act at August's Macworld Expo to the font fireworks at the Seybold Computer Publishing Conference & Exposition in September, 1989 was a stunning year for Mac graphics, desktop publishing, typography and multimedia. But even with these breakthroughs, it's clear we have a long way to go.

Type doesn't satisfy demanding designers, 24-bit color is achingly slow, multimedia is more hype than reality, and color seps just don't cut it.

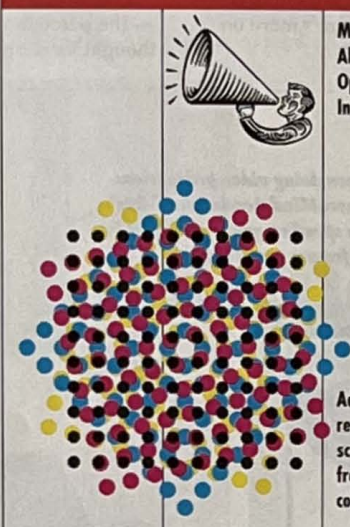
Yet, as we write, type foundries are announcing fonts with thousands of kerning pairs, color accelerators are becoming available, multimedia is finding a niche in business, and color separation programs are continually entering the market.

Three of our top writers recap the events of 1989 and analyze what's in store for the 1990s. Happy New Year.

— The editors

A colorful year

Apple's 32-bit color QuickDraw team



January

February

March

March 14-17: Aldus announced Open Prepress Interface standard.

Adobe announced recommended screen angles and frequencies for color separations.

April

April 17: Apple introduced 32-bit color QuickDraw.

May

June

July

July 18: Radius announced and shipped 32-bit color acceleration board.

Aug. 10: SuperMac released PixelPaint Professional, the first 32-bit color paint program.

Industry pushes for 'good-enough' color

By Steve Hannaford

Luminescent, true-color images glittering on Mac monitors have fired the imagination of users and sparked what may be a final push by developers to perfect PostScript color and bring professional-level color production — or at least "good-enough" color — to the desktop in 1990.

The premiere of Apple's 32-bit color QuickDraw at the National Computer Graphics Association conference last April was possibly the most significant event of the year in color.

Blurry on the edges. While color PostScript output will be making a big impact on the market, there are problems that need solving.

To date, PostScript-based color is uneven, producing varying results even under nearly identical computing environments. In addition, it is slow and poorly understood by vendors and users. These problems show up across the board from color matching to quality halftone output.

But change is in the air. Advances in virtually all these troublesome areas either have been announced or are in the first stages of use, and we look forward to integrated implementations of the new hardware and software.

32-bit color. The advantage of Apple's new standard, 32-bit color QuickDraw, is that true color (16.7 million colors) can now be generated on screen. "Apple has provided the system tools so that third parties can create very sophisticated hardware and software," said Laurie Girand, product manager for 32-bit color QuickDraw at Apple. "If they follow the Apple-defined interfaces, hardware developers can be sure that all software will work with their equipment. And software developers can be sure that their programs will run on any color board or monitor."

Since April several boards have been released that support 32-bit color QuickDraw, such as the NuVista board from Truevision Inc. of Indianapolis as well as boards from RasterOps Corp. of Cupertino,

Round 2 '90: Choosing font format sides

By Clay Andres

Fonts are no longer a topic for esoteric discussion among the cognoscenti; they are big news and big business. In 1989 fonts became an integral part of computer operating systems and a major force in the desktop revolution.

In the surprise move of the year, Apple left its old ally Adobe Systems Inc. of Mountain View, Calif., and smoothed over its differences with Microsoft Corp. of Redmond, Wash., to join forces on new font and printing technologies. Apple's font format (code-named Royal) will be part of Microsoft's OS/2, while Microsoft's PostScript-clone interpreter will be used in future Apple printers.

This announcement, made the day before the Seybold Computer Publishing Conference & Exposition opened in September, represents a threat to the dominance of PostScript and the security of Adobe. It has thrown the font world into confusion over the compatibility of existing fonts and printers with future products.

Don't drop that drawer of type. "A lot of our users are calling to try to get us to explain [Royal]," said Chuck Surprise, general manager of Central Graphics in San Diego and vice president of the Professional PostScript Alliance. "The uncertainty over what Apple will have with its new font technology is already weighing on people trying to make buying decisions. They're hearing that it might be better or it might be incompatible."

For its part, Apple is trying to reassure everyone that System 7.0, including Royal, will be fully backward-compatible. "If you install System 7.0 and you don't do anything else, everything will continue to work just as it does now," said Jim Gable, Apple's font product manager. "For a new Macintosh owner, fonts are much simpler."

However, Mac owners with existing font libraries will have to convert to Royal fonts to take advantage of System 7.0's new capabilities. These include on-screen font scaling, better printing and an end to separate bit-map font files.

In alphabetical order. For all the troubling significance of the Apple/Microsoft announcement, it doesn't change the current state of fonts. The major event of the year with immediate impact is the introduction of Adobe Type Manager.

ATM does for the Mac screen

See Type, Page 46

Looking back at fonts

January

February

March

March 14: Adobe licensed its type technology to Compugraphic, Monotype and Varityper.

March 17: Raster Imaging Processing Systems Inc. announced the capability to interpret Adobe Type 1 fonts.

April

May

May 1: Adobe announced Adobe Type Manager.

May 7: Apple revealed its outline font technology.

June

July

August

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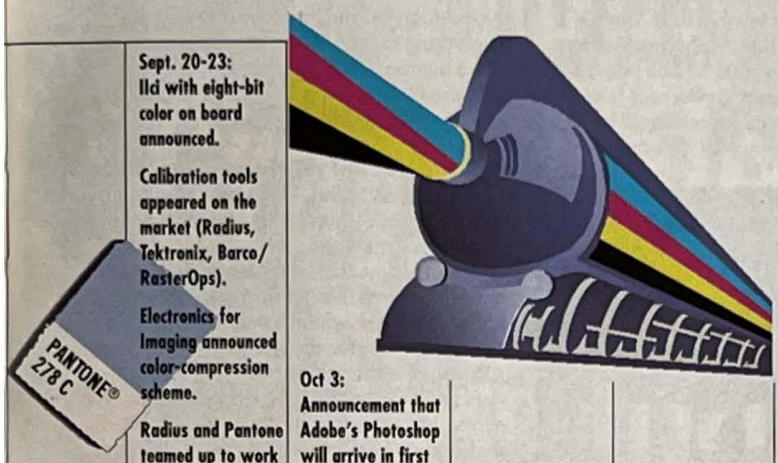


August

September

Sept. 20-23: IIci with eight-bit color on board announced.

Calibration tools appeared on the market (Radius, Tektronix, Barco/RasterOps).

Electronics for Imaging announced color-compression scheme.

Radius and Pantone teamed up to work on standards for implementing PMS in Mac applications.

October

Oct 3: Announcement that Adobe's Photoshop will arrive in first quarter of 1990.

Oct. 31: Arrival of 32-bit color acceleration board from SuperMac.

November

Nov. 30: Letraset's ColorStudio shipped.

December

Calif.; Radius Inc. of San Jose, Calif.; and SuperMac Technology of Mountain View, Calif., but it's only in the last quarter of 1989 that we're seeing a body of software and hardware taking advantage of it.

Software includes ColorStudio from Letraset USA of Paramus, N.J.; PixelPaint Professional from SuperMac; PhotoMac from Avalon Development Group of Cambridge, Mass.; and Photoshop from Adobe Systems Inc. of Mountain View, Calif. Of these, ColorStudio and Photoshop are considered the products to rival dedicated professional color graphic systems, such as the Quantel Paintbox, because of their abundance of sophisticated graphics features, like anti-aliasing and translucent masking.

However, true color on screen is no big advantage if it lacks a relationship to the eventual output. For this reason, screen calibration devices from Radius and RasterOps provide facilities for showing screen color that is consistent with itself as well as with color output devices. Tektronix of Beaverton, Ore., also is offering a variation on the calibration theme with a color fidelity system that matches colors that can be shown on monitors with those its printers can output.

The question of speed. Quality is not enough. All the infor-

See Color, Page 50

Multimedia: Application of the '90s?

By Connie Guglielmo

Video and animation. In 1989, that mix meant multimedia — dynamic and interactive presentations — to Mac users.

To Macintosh developers, it meant an opportunity to develop new tools. During the past 12 months, a variety of hardware and software products have been announced, released and promised that will make it as easy for users to work with images and sounds as it is to manipulate text.

These new products pave the way not only for multimedia presentations, but also for the development of desktop video — Mac-based systems that let users combine video, animation, sound and text as well as control media devices such as videodisc and videotape players to produce broadcast-quality presentations.

Follow the leader. In late 1988, Apple was doing its best to downplay multimedia. But during the past year, the company has done all it could to build interest in the Mac as a multimedia platform.

After three years of quietly developing "multimedia design examples" with partners like Lucasfilm of San Rafael, Calif., and the Audubon Society, Apple's Multimedia Lab in San Francisco put together the "Visual Almanac," a HyperCard-driven, interactive videodisc presentation that shows how multimedia technology can be used for learning. It's not a commercial product, but it will be available to schools via grants early next year.

To help seed the market with commercial products, Apple teamed in August with a host of major "information providers," including ABC News Interactive, Datapro, Newsweek, Warner New Media and WGBH Television.

On the development side, Apple announced its Media Control Architecture, a system-level framework that will set standards for connecting devices such as videodisc, videotape and CD audio players to the Macintosh. Currently, developers have to write custom drivers for each device. A developer's kit, promised by year's end, will offer sample device drivers and specifications, including user interface guidelines, for writing new drivers that work from within any Macintosh application.

Apple this year also proposed a new file format for handling compound documents, or files that contain more than one type of data, such as text, graphics and sound. The company has called on developers to help define MIFF, the media interchange file format, during the next year.

The company also has hinted at its plans for video on the Macintosh. At the keynote address during the Boston Macworld Expo in August, Apple CEO John Sculley and Steve Perlman, a member of Apple's Advanced Technology Group, demonstrated a prototype Macintosh running 24-bit color video and animations in real time (30 frames per second) in multiple windows on screen. The feat was accomplished with a custom chip and a system hotwired by Perlman and other members of the Advanced Technology Group.

Although the demonstration was meant to showcase technology, not future products, according to Sculley, the September release of the new Mac IIci, with its on-board eight-bit color video, indicates

See Video, Page 53

Video makes news

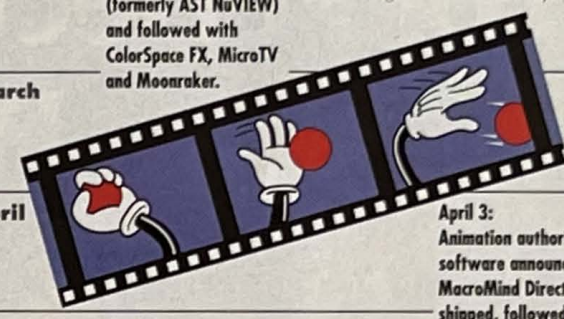
January

Jan. 31: Special-effects video boards demonstrated that show off Apple's HyperTV concept, starting with Personal Vision (formerly AST NuVIEW) and followed with ColorSpace FX, MicroTV and Moonraker.

BigTime TV Simulation Display

February

March



April

April 3: Animation authoring software announced. MacroMind Director shipped, followed by SuperCard, BigTime TV, MediaMaker, Spotlight and interFACE.

May

May 2: More video-editing systems introduced. Following MIDAS I into the market, Avid/1 Media Composer was announced, along with the Quicksilver Videodisc Editing System and the Video Publisher.

June

July

Avid/1 Media Composer

August

Aug. 15: First wave of multimedia products from major information providers, including ABC News Interactive, Newsweek, Warner New Media, WGBH Television and Datapro.

September

Aug. 15: Four months after proposing the media interchange file format (MIFF), Apple announced the Apple Multimedia Control Architecture and demonstrated a prototype Mac system with real-time, interactive video and video compression.

October

November

Steve Perlman of Apple

December

Bill Gates of Microsoft and Apple's John Sculley

September

Sept. 18: Apple and Microsoft announced exchange of Apple's font technology for Microsoft's PostScript clone.

Sept. 19: At the opening session of the Seybold Conference, John Warnock announced Adobe will publish specifications for Type 1 fonts.

October

Oct. 16: ATM shipped.

John Warnock of Adobe

November

Lithos

December

ABC
DEF
GHI
JKL

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Type

From Page 44

what the PostScript interpreter does on the printed page; it scales font outlines on the fly. It is limited to Type 1 fonts but not just PostScript printers. Even Gable admitted, "ATM is a nice utility that lets people see why outline fonts are important."

Even though Apple would like to downplay ATM, there will be a lot of Macs with ATM before System 7.0 is released. "We're shipping ATM, and it's selling like crazy," said John Warnock, president of Adobe. "We want our typeface format to survive. PostScript is very strongly entrenched and becoming more so. There aren't really any viable alternatives. When System 7.0 comes out we will be ready with an enhanced, compatible version of ATM."

Lance Hidy, a member of Adobe's typographic advisory board and also a well-known illustrator, typographer and consultant to the computer industry, said, "I think ATM is the most exciting thing to happen on my computer in typography in a long time."

The continued success of ATM could jeopardize the future of Royal. Many typographers and graphic artists have already invested heavily in fonts and technology and don't want to support a second standard. "System 7.0 fonts will make designers either laugh or be infuriated," Hidy said. "If Apple told me specifically what is better about System 7.0, I'd be willing to be convinced. If Apple's competition means that Adobe works faster to clean up problems, that will be helpful. But if it means that service bureaus have to support two incompatible, relatively equivalent formats, then I see a lot of headaches."

Hidy may get what he's asking for. There are already some good reviews from experts who have been privy to Apple's secrets. "Its font format goes way beyond any spec I've seen," said Mike Parker, president of The Company of Boston. "It's incredibly good. [Apple] really listened to the artists who were type designers, and for the first time it put everything in. But its success depends on time more than anything else. [Royal] has the promise of doing more than any composing machine the world has ever seen."

Not quite hot off the presses. Adobe is shipping ATM but, like Apple, won't publish the specifications of its font format until sometime next year.

Apple claims that every major font vendor except Adobe will be converting its entire library to Royal, which would be encouraging if it weren't for the fact that Adobe dominates the PostScript font market. Still, vendors are eagerly lining up behind Royal. "We expect to be the first to have a significant font library available with System 7.0," said Louise Domenitz, public relations director at Bitstream Inc. of Cambridge, Mass. "Our business is fonts, and we will supply them in whatever format users need."

Bitstream claims that for existing owners, the upgrade to System 7.0 will be reasonably priced and that the new packages will contain both System 7.0 and PostScript Type 1 outlines.

Adobe also has been lining up support for its format, having licensed its font-creation tools to several leading type vendors, including Compugraphic of Wilmington, Mass.; Monotype of Elk Grove Village, Ill.; and Varityper of East Hanover, N.J., since last March.

However, when Adobe publishes the Type 1 specifications, anyone will be able to take advantage of its hinting, encryption, compression and better printing. But Adobe warns that it won't be easy. "If you were handed the parts list for a Ferrari, you would probably still find it very difficult to put together something that ran," said an Adobe white paper on third-party development of Type 1 fonts.

A wilderness of choices. Users seem to be faced with a complicated choice of components from among Adobe's Type 1, ATM and PostScript; Apple's System 7.0 and Royal; and Microsoft's PostScript clone.

"We're not abandoning PostScript," said Apple's Gable. "We'll continue to support it and bring out new PostScript printers. System 7 will be backward-compatible with hardware and software, including fonts. It will all work, and that's why owning a Mac is a cool thing."

But if Apple is really concerned with compatibility, why did it need a second font format? Many users see the second format as a return to the bad old days when typesetter manufacturers jealously guarded their font libraries and no two were compatible.

The inky crystal ball. Even though vendors are ready for two font standards, users are not. And it will be some time before there are as many Royal fonts as Type 1. This is where the significance of the Apple/Microsoft agreement comes in. Microsoft's OS/2 is relatively new, and sales of OS/2 machines with Royal could be a formidable market force. The high-end world that already has Adobe fonts may remain loyal yet soon be outnumbered by the office automation world that buys Royal.

Users can hope that increased competition will lower costs and improve the quality of

See Type, Page 50

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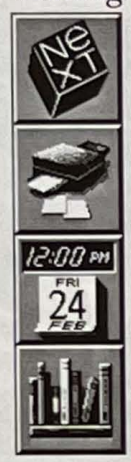
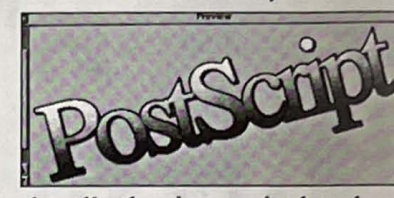
1 The NeXT™ Computer System is the first computer in the world (and so far the only) to use read/write/erasable optical storage. While PCs today are typically equipped with Winchester drives that store 20 to 40 MB, a single optical disk can store 256 MB. Plus, it is removable, for portability and added security. This dramatically new technology provides storage that is simultaneously vast, reliable and cost-effective—a combination unmatched by computers of any size.

2 NeXT has made the power of UNIX® usable by mere mortals. UNIX is the high-performance operating system used by workstations to achieve true multitasking and superior networking. Unfortunately, it has always been the antithesis of user-friendly. NeXT has given UNIX a revolutionary new interface—one that is both visual and intuitive. Now computer users of every level can instantly wield this tremendous power, with no technical knowledge whatsoever.



3 To achieve the power needed for the 90s, NeXT bypassed traditional workstation architecture and went directly to that of a mainframe. This eliminates bottlenecks and attains an extraordinary level of system "throughput"—the true measure of computer performance. Only through the use of VLSI (Very Large Scale Integration) technology could this architecture be reduced in size so that it could fit inside a desktop computer. It's a mainframe on two chips.

4 While PostScript® has long been the industry standard for printing, NeXT has made it fast enough to also be used on the display. This "unified imaging model" ensures that what you see on



the display is precisely what you will get on paper. All your work, in any size type and any degree of rotation or magnification, appears with perfect 92-dots-per-inch clarity on the NeXT MegaPixel Display. And with laser precision at 400 dpi on the NeXT Laser Printer.

IN THE 90s, WE'L
ONLY TEN REAL BREAKTH
HERE ARE SE

5 The NeXT Computer System is the first to be capable of producing CD-quality sound. Without requiring any additional equipment. This feat is made possible by a chip that has been specifically designed for the task of manipulating sound–the Digital Signal Processor (DSP). Because this processor is standard in every NeXT machine, software developers will be able to call upon its power to enrich programs we use every day. Now computers will not just be seen, but heard.

6 NeXT Mail takes electronic communications beyond anything you've seen on a personal computer before. Now you can send and receive multimedia mail–including text (with varied type fonts, styles and sizes), graphics and voice messages. And despite its high level of sophistication, NeXT Mail is so intuitive, you may not ever need to open the manual. NeXT Mail is built into the system, along with Ethernet and TCP/IP, so the NeXT machine can quickly become a part of existing networks.

7 Programmers can create software on the NeXT Computer up to ten times faster than on any other computer–the result of a breakthrough called NextStep.* It gives software developers the power to create the graphical user interface portion of their applications (often the most time-consuming and difficult part) without any programming at all. This revolutionary environment means we will see more programs, and better ones, in less time than ever possible before.

These seven breakthroughs will change the way we use computers in the 90s. Which is why Businessland, the leading supplier of computers to corporate America, chose the NeXT Computer System as the workstation they will offer. Call us at 800-848-NeXT, and we'll send you a 28-page brochure describing the NeXT Computer. We'll also give you the address of your nearest Businessland Center. There, you can experience for yourself the first seven breakthroughs of the 90s. And get a good idea where the next three will come from.

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Type

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fonts and printers. "The bottom line is that there will be lots of fonts," Gable said. "And as far as the user goes, things will just work."

Despite Apple's official optimism, System 7.0's release is bound to cause confusion and incompatibilities.

Apple's new deal with Microsoft drove a wedge between Apple and Adobe, but both companies claim that the lines of communication remain open. "I don't like to be at odds with Apple," Warnock said. "It's not good for either of us. I have a Mac II on my desk at home, and it's in my best interest for that to be a productive machine. I have no quarrel with Apple doing what it thinks is best for its business. I'm delighted with the features in System 7."

Adobe announced it would write a PostScript-Royal translator when Apple announced Royal in May. But since the formation of the Apple-Microsoft alliance in September, Adobe has dropped the project, saying that Apple could do a better job.

Apple says it will pick up the ball. In addition, several third parties, including The Company, are working on similar translators, which could save users money in font upgrades and help avoid the necessity of buying two font libraries.

"In the past, and even with Adobe, fonts were things that you got with output devices," said Charles Bigelow, professor of art and computer science at Stanford University in Stanford, Calif., and a font designer with Bigelow & Holmes of Menlo Park, Calif. "Fonts are becoming allied to operating systems. Apple and Microsoft together cover much of the world of operating systems, so that their battle with Adobe affects the entire market. The font market used to be tens of thousands of typographers. Now it is millions. That means there will be more creativity and more variety."

For all the font controversy that this year has brought, next year is likely to bring more upheaval and angst. This year has seen the start of the battles, and next year users will decide whose system is better. They may even find that the double standard is a good thing. □

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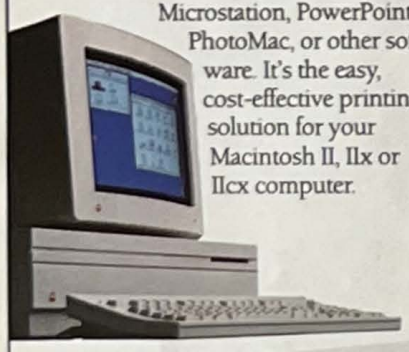

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Color

From Page 45

mation about each pixel can make 32-bit color QuickDraw deadly slow. The swift Mac IIci and a growing number of CPU accelerators are starting to provide the speed that users of 32-bit color applications really need. But the most-dramatic speed enhancements may come from dedicated accelerator cards for color monitors developed by Radius and SuperMac.

Even the fastest accelerators, though, can have only a limited effect on the loading and storing of huge color files. Electronics for Imaging of San Bruno, Calif., recently demonstrated algorithms for drastic color file compression, in the range of 20-to-1, that make both storage and transmission of large color images simpler, faster and more economical. Most importantly, the company also is working with firmware technology to compress and decompress such files at a rate of about 50 Mbytes per second. This technology is scheduled to appear before year's end, and its force will be expanded by a new color compression standard to be set next spring by the Consultative Committee International Telegraph and Telephone (CCITT). The Electronics for Imaging scheme will support the new standard.

Mark Granger and Jay Roth of Electric Image created this 32-bit image as part of a 150-frame animation.

Input. While the systems for handling color on the Mac are improving, equally critical for high-end color work is the quality of scanned input. For starters, the prices of color scanners have begun to tumble, evidenced by the less-than-$3,000 color scanner from Microtek of Gardena, Calif. In addition, companies like Array Technologies of Oakland, Calif.; Imapro U.S. Inc. of Suffern, N.Y.; and Nikon Inc. of Garden City, N.Y., are offering new technologies in scanners that promise better results than CCD (charged-coupled device) array technology in scanners now on the market.

While all these companies (along with Barneyscan Corp. of Alameda, Calif.; Howtek Inc. of Hudson, N.H.; Truvel Corp. of Chatsworth, Calif.; and Eikonix Corp. of Billerica, Mass.) offer excellent products, the most-demanding color scanning may require a more powerful drum scanner. Look for that capability in desktop-oriented models from

See Color, Page 52

Introducing the first color PostScript printer priced to keep you in the black.

The QMS ColorScript 100 Model 10. Just $9,995.

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Color

From Page 50

Optronics of Chelmsford, Mass.; Dainippon Screen of Brea, Calif.; and Hell Graphic Systems Inc. of Port Washington, N.Y., in the coming year. These models may run well over $50,000, but they will bring nearly all the power of high-end color scanning at a price that a prosperous service bureau or busy in-house publishing plant can afford.

Output. This year, along with advances in input and throughput have come serious strides in output technology. One of the most impressive areas of advance is that of high-quality PostScript color proofing, such as New Cumberland, Pa.-based DuPont's 4Cast photographic-quality proofing printer. Add this super-high-quality output device to the already useful PostScript color thermal printers (the QMS ColorSetter, the Howtek PixelMaster, the Oce 5232 and the Tektronix 4693DX with the Phaser CPS PostScript controller/spooler) and you have a range of comping and proofing devices for professional use.

Additionally, three separation giants, Hell; Crosfield Design Systems of Minneapolis; and Scitex America Corp. of Bedford, Mass., have made serious Mac commitments. It is now easier for designers to work in a familiar Mac page-layout environment and then hand over the finished files to a color shop for final output. With the announcement from Aldus Corp. of Seattle of the Open Prepress Interface (OPI) standard early in the year, the prospect of sharing PostScript page geometry, type and line art with proprietary systems has become more likely.

While there is some hope that the smarts of a pre-press operator may be built into software, no one is holding his breath.

Hell unveiled the ScriptMaster, its new link from the Macintosh to its high-end system, at the September Seybold Computer Publishing Conference & Exposition. Crosfield's Lightspeed system, a Mach-based prepress system, allows clients to do preliminary page assembly for color output on the Macintosh, and the company also offers a direct import of Letraset's Ready,Set,Go! files into its high-end color system (with plans to support other page-layout programs next year). Scitex showed an expanded-feature version of Visionary, its extension of QuarkXPress that lets users prepare pages for later production in a color shop, as well as VIP, its own PostScript interpreter.

The imagesetters. As much as high-end color companies may want to dominate the market, the improvement in PostScript imagesetting makes fully desktop-based systems more likely. Imagesetter speeds continue to improve, and certain manufacturers introduced imagesetters that were built from the ground up to do color. Optronics showed its high-speed ColorSetter 2000, a powerful color-dedicated imagesetter supporting another international color standard, CIE-LUV, which has its own proprietary halftoning scheme and the ability to create four pages (separations) at one time. ECRM Inc. of Tewksbury, Mass., was showing the PelBox 3000, which produces very high-resolution (3,000 dpi) color separations.

In the area of color separation software, CyberChrome Inc. of New Haven, Conn.; and Pre-Press Technologies Inc. of Encinitas, Calif., plan to upgrade their desktop separation systems and are seeing their systems produce real-life work at a growing number of sites. Letraset announced a strategic technology licensing agreement with Optronics in which Letraset will use, in its Studio line of software, the above-mentioned color technology. And Adobe, whose separations from Photoshop are garnering praise from beta testers, is working on software that will improve separations for all PostScript users.

Education. Just as desktop publishers have had to become knowledgeable about typography, so too, according to some observers, do they need to start making sense of color pre-press. While there is some hope that much of the smarts of a pre-press operator may be built into software, none of the pioneers in desktop color are holding their breath.

David Buell, vice president of Advanced Laser Graphics, a Washington value-added reseller (VAR) specializing in the color markets, voiced a concern about color. "It now appears we can assemble all the physical elements (with the exception of trapping technology) for a truly color-capable desktop system. The only problem is the lack of detailed color knowledge."

Bruce Harrison, Optronics general manager, sees a solution through a massive educational effort by VAR and trade shops. "This knowledge has been the domain of pre-press shops of the past 20 years," he said. "With new training efforts, the knowledge of color is spreading. Expect to see a rapid democratization of high-quality color in 1990." □

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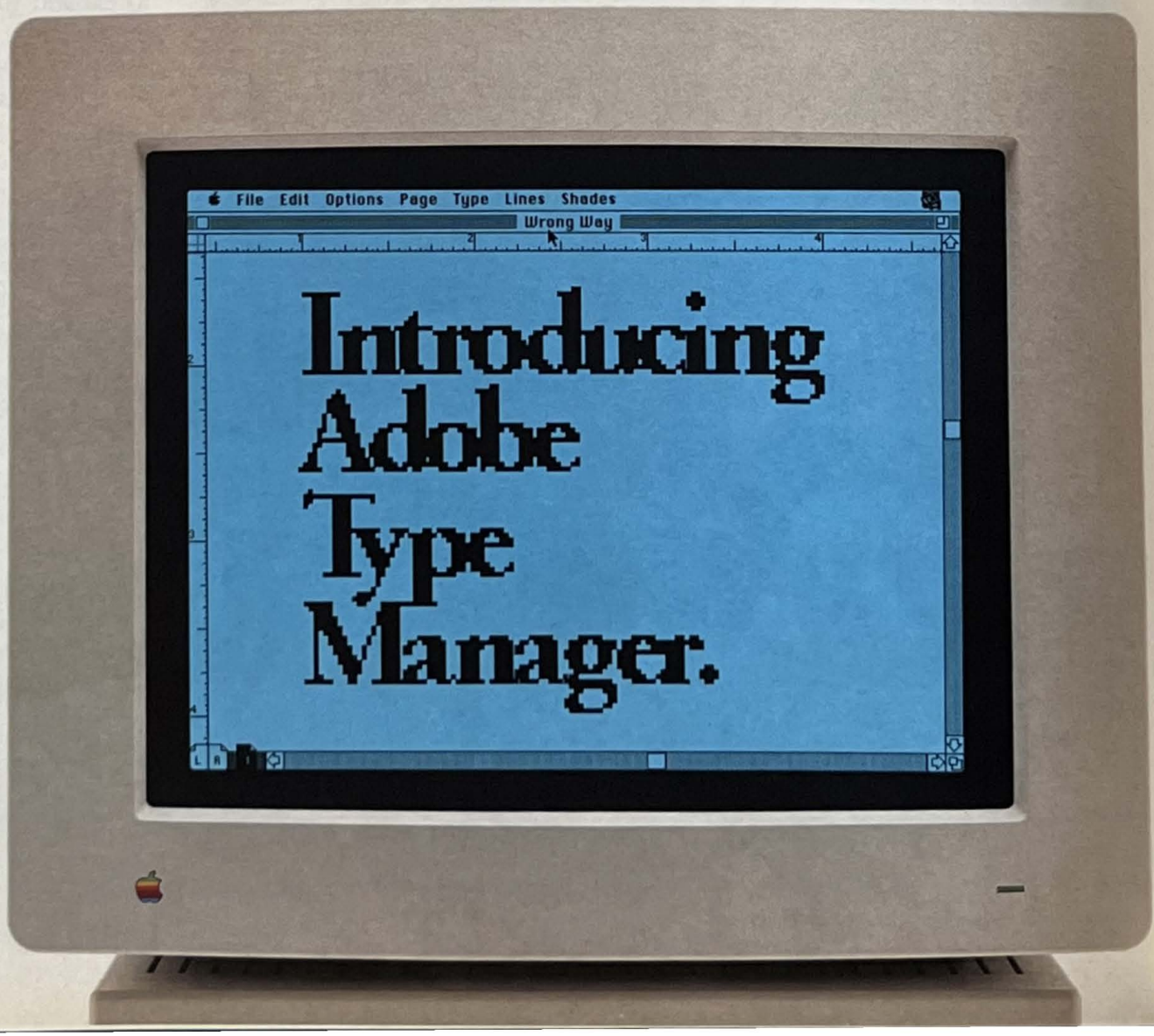


Video

From Page 45

Apple's trend toward making more-advanced graphics-handling part of the Mac system.

Perlman also said Apple was investigating real-time video compression and decompression as a technology direction.

HyperCard and beyond. A common thread tying together almost all the new multimedia and desktop video products introduced this year was the use of HyperCard as a front end. Although Apple is expected to release HyperCard 2.0 sometime next spring, users did not have to wait to produce stacks that support color and multiple windows.

Picking up where HyperCard left off, Silicon Beach Software of San Diego released SuperCard, and Spinnaker Software of Cambridge, Mass., acquired rights to Plus from German developer Format GmbH.

To help build momentum around HyperCard for multimedia and video applications, Sculley used the January Macworld Expo in San Francisco to demonstrate HyperTV. This technology display showed off HyperCard as a tool for creating and driving interactive presentations that combine live-action video and still images stored on a laser disc with graphics, text and digitized sound stored on the Mac.

Part of what made Apple's HyperTV vision a reality was a new generation of video boards, such as ColorSpace FX from Mass Microsystems of Sunnyvale, Calif.; Personal Vision from Orange Micro of Anaheim, Calif.; and the recently announced Moonraker from Workstation Technologies Inc. of Irvine, Calif. These cards make it possible to display NTSC (National Television System Committee) video on the Macintosh's RGB (red, green, blue) screen, not on a separate video monitor.

Taking its cue from Apple, HyperPress Publishing of Foster City, Calif., later introduced BigTime TV, a $395 HyperCard-based application that lets users easily create interactive video presentations. And with the help of Apple's Multimedia Lab, the British Broadcasting Corp.'s Interactive Television Unit developed MediaMaker, a SuperCard-based program that lets users create multimedia sequences up to 10 minutes long. ITU hopes to bring it to market early next year.

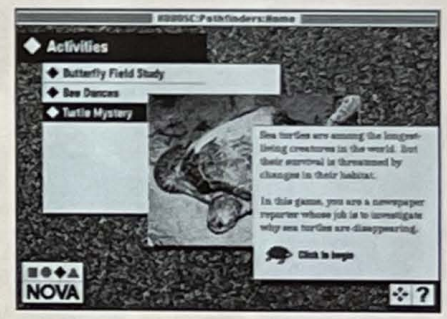
From NTSC to RGB and back. In addition to special-effects boards, Macintosh developers, following on the heels of Apple's release of 32-bit color QuickDraw, announced video digitizers and frame grabbers for importing and exporting full (24-bit) color images between the Mac and videotape. These include the NuVista board from Truevision Inc. of Indianapolis at the high end; ColorSnap-32 from Computer Friends of Portland, Ore., a video capture board that works with still-video cameras, video cameras and videocassette recorders; and the SFX from RasterOps Corp. of Cupertino, Calif., a daughterboard that works with the company's ColorBoard 232 and 224 graphics boards for mixing computer-generated graphics with video.

In an effort to bring video to the Mac masses, Aapps Corp. of Mountain View, Calif., announced MicroTV. The $395 board lets Mac users watch live-action video from any other source in a window on their computer screens while simultaneously running other applications.

To showcase some of the Mac-based video systems, Apple unveiled Apple TV, a $1.5 million TV broadcast studio for airing company and product information to Apple employees, business partners and customers worldwide. Video-editing systems used at

See Video, next page

Created by Mass Microsystems engineer David Rumbal, this image shows the original output from the ColorSpace II card as well as the digitizer that captured the still-video image, allowing it to be saved as a PICT file.



Jointly produced by WGBH of Boston and Peace River Films, "Interactive NOVA: Animal Pathfinders" is an educational multimedia project created in HyperCard that is designed for use in science classrooms.

Ragged Right.

ence right away. Then, if you need more, ATM™ Plus Pack gives you the 22 additional PostScript® font outlines contained in the LaserWriter® IINT and IINTX printers. Both packages work together to make your screen look as good as your printed page.

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Video

From previous page

Apple TV include Midas 1 from Seehorn Technologies of San Jose, Calif.; Avid/1 Media Composer from Avid Technology of Burlington, Mass.; Quicksilver Videodisc Editing System from the Sundance Technology Group of Irving, Texas; and Video Publisher, a HyperCard front end to Campbell, Calif.-based Advanced Remote Technologies' network of video equipment. DMSAT Satellite Communications Inc. of Capitola, Calif., also developed a HyperCard front end to its DMSAT Satellite Dish Aiming System, which is in use at the studio.

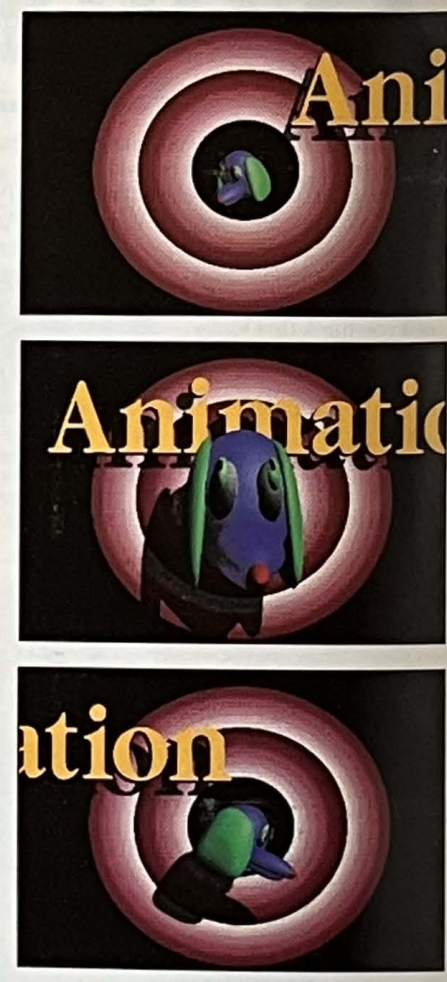
Animation and 3-D. Until this year, animation on the Mac meant VideoWorks II from MacroMind Inc. of San Francisco, but the release of several new animation and 3-D programs helped bring smoother motion to many Mac presentations. MacroMind led off with MacroMind Director, the next generation of its VideoWorks II technology. At the low end, Electronic Arts of San Mateo, Calif., offered simple animation capabilities in its Studio/1 black-and-white program. At the high end, Electric Image of El Monte, Calif., released Spotlight, its 32-bit color program that combines real-time animation with sophisticated 3-D rendering.

As a sidelight, Bright Star Technology of Bellevue, Wash., announced interFACE, a program that builds on its HyperAnimator technology to provide a way to create animated talking characters using synchronized sound.

For 3-D, users can choose from among Silicon Beach's Super 3D; Swivel 3D and ModelShop from Paracomp of San Francisco; StrataVISION3d from Strata Inc. of Santa Cruz, Calif.; and Presenter from Visual Information Development Inc. of La Puente, Calif.

In the near future, users also can expect two new 3-D rendering packages from MacroMind (3DWorks and RenderWorks) and the long-delayed Mac version of Sculpt 3-D from Byte by Byte Corp. of Austin, Texas.

On the horizon is RenderMan, a 3-D scene-description language developed by Pixar of San Rafael, Calif., and used to create its award-winning "Tin Toy" animation. Several Macintosh 3-D developers have expressed interest in supporting the RenderMan standard in future releases, according to Pixar.



Using MacroMind Director, MacroMind's Stuart Sharpe created this animated sequence for an in-house promotion.

Toward the future. With Apple continuing to promote multimedia under the umbrella "desktop media," it's been difficult to separate hypermedia from hypermarketing. Still, Mac users can expect to see a variety of new products bearing the multimedia label in the next year.

Taking HyperTV as the model, multimedia developers, such as producer Robert Abel, who has spent the past eight months creating an interactive exploration of Pablo Picasso's "Guernica," will continue to create complex HyperCard-based video presentations for the Mac screen.

But even with the pieces of the multimedia puzzle falling into place, questions remain about who the audience/market for multimedia really is. As early adapters such as Abel, ABC News Interactive and WGBH Television, begin to imaginatively explore the possibilities of multimedia, showing us the potential that has until now been abstract, these questions may be answered. □

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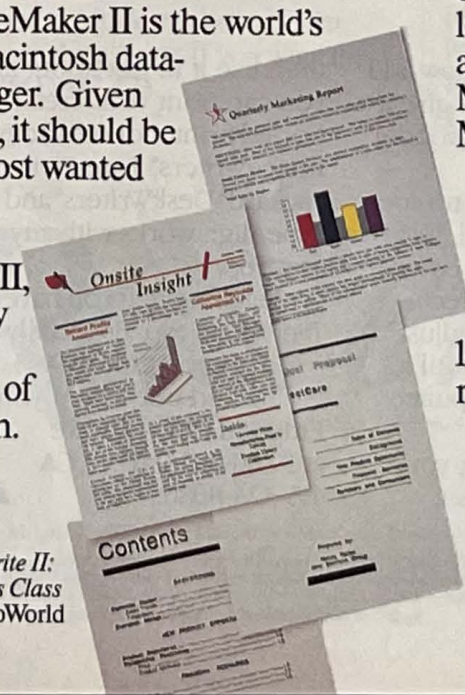

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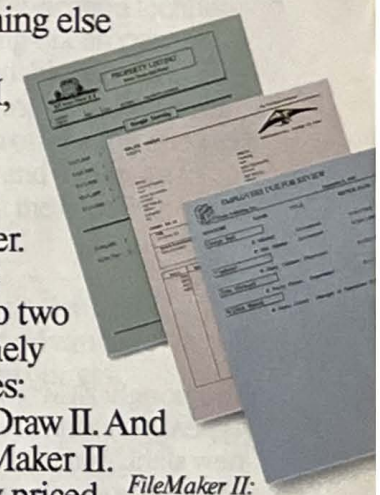

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The Cutting Edge LASLO VESPREMI

The human factor in desktop color

By now most readers of the desktop publishing press have seen color pictures prepared and separated traditionally in side-by-side comparisons with pictures separated with desktop tools. The point these comparisons illustrate is that desktop color is inferior to that produced by traditional methods.

Writers of these articles, myself included, have usually blamed inferior performance of the scanners, imagesetters or separation software used in desktop operations. However, we have neglected one important factor: the role a trained operator plays in ensuring quality on professional equipment. I'd like to reassess the variables — including operator skill level — that account for the difference in quality between professional and desktop color.

Let's assume that professional-quality color, such as that found in glossy magazines, expensive books and brochures, represents 100 points on a scale of 100. At the other end of the scale we will put bad or unacceptable color, which receives a rating of zero. In between, from 50 to 99 points, lies a nebulous area referred to lately as "good-enough" color. Obviously, these labels and values are used here only to illustrate a point.

Next, we must examine and assign points to the factors that contribute to the decline of quality.

Much of the discrepancy between traditional and desktop color quality is based on differences between $10,000 desktop scanners, such as those from Nikon, Barneyscan and Howtek, and $250,000 drum scanners like those from Crosfield and Dainippon. The gap in performance is mainly due to underlying technology differences between the charged coupled device (CCD) elements used in desktop scanners and the laser technology used in high-end drum scanners.

CCD technology is less accurate for detecting colors in very light or very dark areas of a picture. Those differences cost desktop color between five and 20 points on our scale.

Differences in separation software packages for the Macintosh affect the quality of color separation less than thought before, given equal abilities on the part of operators. The main difference between desktop and high-end systems is that dedicated systems start with CMYK (cyan, magenta, yellow, black) files, while desktop systems must convert RGB (red, green, blue) files to CMYK. Let's take another five to 15 points off of the quality of desktop color due to these software differences.

Desktop output devices have often been called the main drag on desktop color quality, with speed, registration and film density as the weak points. The reality is that although high-end machines are better, desktop imagesetters are not the primary culprits. Still, let's take off five to 15 points for using a low-end imagesetter.

Subtracting from 100, desktop color quality rates between 55 to 85 points on our scale. And that's good enough to be "good-enough" color.

But before we break out the champagne, we need to look at the all-but-forgotten factor: the operator.

Professional scanner operators correct for color, gradation and other factors by using a confusing array of 120 knobs and buttons. Operators often need more than three years to become proficient enough in their craft to efficiently and consistently turn out quality work.

What about desktop publishing operators? It is obvious that in most cases they haven't had the same training and exposure to color as their professional kin. Yet what they do to correct color and separate images affects quality. This lack of skill has more effect on final output from the desktop than all other components — hardware and software — combined. In fact, the difference in skill level takes away as much as 50 points on our scale, pushing desktop output quality down from the "good-enough color" range to the unacceptable.

It is impractical to expect everyone using desktop color to fly to seminars, take classes for weeks and practice for years afterward. If the '90s are to herald an era of desktop color publishing, perhaps what we need is intelligent software to teach novices and to help beginners understand and master the use of color. □

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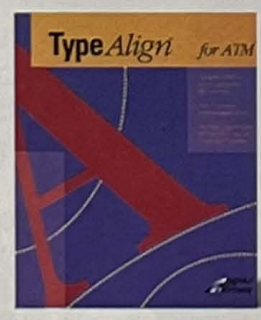

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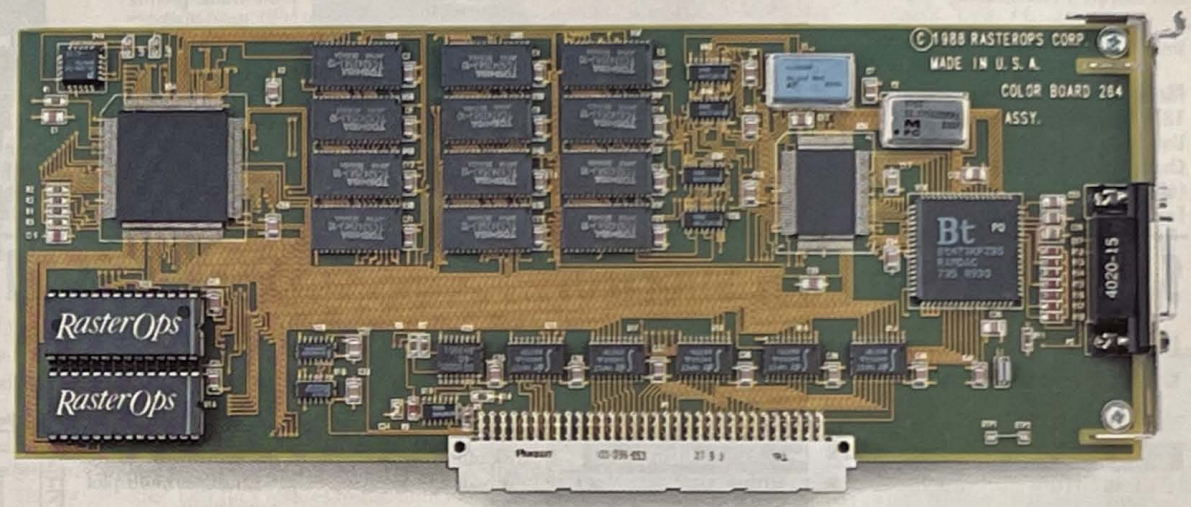

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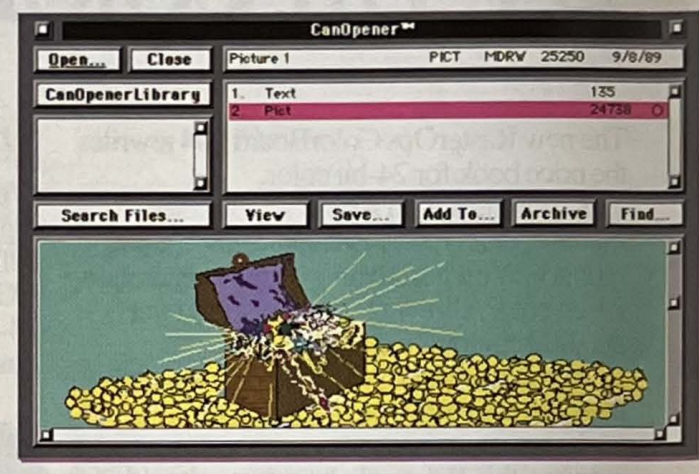

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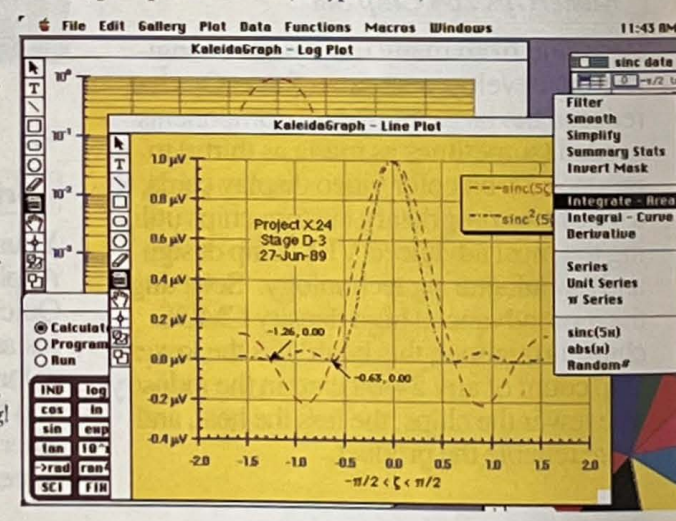

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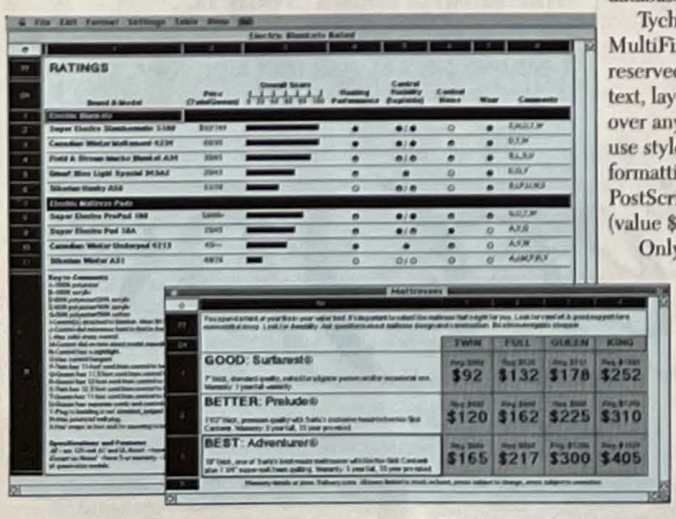

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COMPARISONS

Kerning: For the choosy typesetter

Kerning utilities let users work around the 'problem pairs' inherent to desktop publishing.

By Bruce Fraser

In fine typography, the character pair "Ta" is normally set closer together than the pair "Am" to preserve even letter spacing. The act of tucking the "a" closer to the "T" is called kerning. Most Macintosh page-layout applications can kern problem pairs, but only on a case-by-case basis. You can't just tighten the "Ta" pair and have that kerning value automatically applied to all other instances of the pair.

Traditional typesetting systems use kerning tables — lists of character pairs that are kerned automatically — so that manual kerning is required only for fine-tuning. Most Macintosh fonts contain kerning tables, and most page-layout applications recognize and use them, but until recently there was no easy method for adding new pairs or altering the existing ones.

We looked at five recently released kerning utilities. All perform the same basic task, editing the kerning tables built into the FOND resource of a Macintosh font. All are capable of a precision of one one-thousandth of an em space. Their differences are mainly in the extra features they offer, their user interfaces and pricing.

LetrTuck Plus. LetrTuck Plus by EDCO Services Inc. of Tampa, Fla., is a no-frills kerning editor. It opens the fonts installed in the System file or in font suitcase files. After opening the desired font suitcase and choosing the specific font and style you want to edit, the kerning pairs for that font and style appear in an Overview window.

To adjust a pair, you highlight it in the Overview window. That pair then appears in the Editor window. You can adjust the kerning value by using a scroll bar or by typing a kerning value into a text box. You add and delete pairs using menu commands.

You can test your kerning pairs by printing a test sheet to a PostScript printer. The Print command prints the selected pair and all other pairs in the font with the same first character, at five sizes ranging from 12 points to 72 points.

You can save the new kerning values to the font or to a LetrTuck kerning table that you can load into other fonts. When you load a table into a font, you can append the new table to the existing pairs or overwrite them. You can also save and load QuarkXPress kerning data files or save the kerning table as a text file.

LetrTuck suffers from annoying limitations. It was deliberately designed to not run under MultiFinder, thereby avoiding problems caused by modifying a font that is in use by another application. A more serious limitation is that if you use Suitcase II or MasterJuggler, LetrTuck refuses to run until you close all fonts that were opened with these utilities. The manual is inadequate. Half of it is devoted to the IBM PC version, while the other half refers to a previous release of the Macintosh product. A Read Me file on the disk contains details of the differences between old and new versions, but it is not a satisfactory substitute for a manual.

LetrTuck includes a set of kerning tables for the fonts built into the LaserWriter Plus.

MacKern. Wheeling, Ill.-based ICOM Simulations' MacKern works with both MultiFinder and Suitcase. It won't allow you to modify a font that is already open, but you can open any unused font suitcase file. MacKern lets you open multiple fonts at the same time, each of which appears in its own Editor and Overview windows.

The Editor window displays the current pair at 100-point size, with a scrolling list of all the kerning pairs and values in the font. You adjust the kerning by using the scroll bar or by entering a numeric value.

The Overview window shows all the kerning pairs and values in the current font in tabular form at the point size you choose. Double-clicking a pair opens the Editor window with that pair selected.

The Sample window displays any text file up to 32 Kbytes in the size chosen for the Overview window. Printing from the Sample window prints the sample text in the current font and size. Printing from the Overview window prints all the kerning pairs, and printing from the Editor window prints a list of the selected pair or pairs.

You can select multiple pairs in either the Editor or the Overview window, cut or copy them to the Clipboard, and paste them into a different font. Two other commands work on multiple pairs: Set Selected Pairs lets you apply a kerning value to all selected pairs, while Adjust Selected Pairs lets you offset the kerning value of all the selected pairs by a specified amount.

You can save kerning values to the font file, a MacKern data file, a text file or to an existing Adobe Font Metrics (AFM) file. Only PC applications use the kerning information in AFM files, so the ability to alter them is mainly valuable in multiplatform environments. When you load a table into a font, you can replace the old table entirely; merge old and new, giving preference to the old pairs or the new pairs; or have MacKern prompt you for a decision on each duplicate pair.

MacKern can convert FONT resources to the newer NFNTs, which allow a much greater range of ID numbers, and change a font's ID to avoid conflicts. This feature is dangerous in inexperienced hands. The question of changing font IDs is glossed over in the otherwise excellent documentation, which contains a tutorial, a reference section and a comprehensive troubleshooting guide. A good on-screen help system contains page references to the manual.

MacKern includes two generic kerning tables containing pairs without kerning values, one with 523 entries and another with 265, that you can load into any font instead of entering kerning pairs by hand.

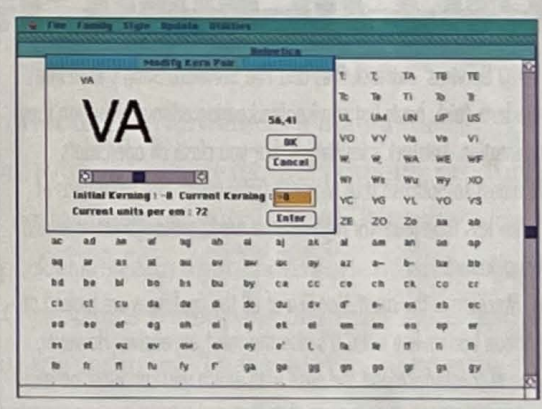
Kern-Rite. Kern-Rite from The Software Shop Inc. of Bellmore, N.Y., looks and feels like a scaled-down version of MacKern that opens only one font at a time.

Kern-Rite uses Overview and Editor windows that function more or less identically to their counterparts in MacKern, but it lacks a Sample window. Printing options are limited to using the Print command, which prints all the kerning pairs in the table at the size selected in the Overview window, or the Print Sample command, which prints the selected pair or pairs in sizes ranging from 9 points to 100 points.

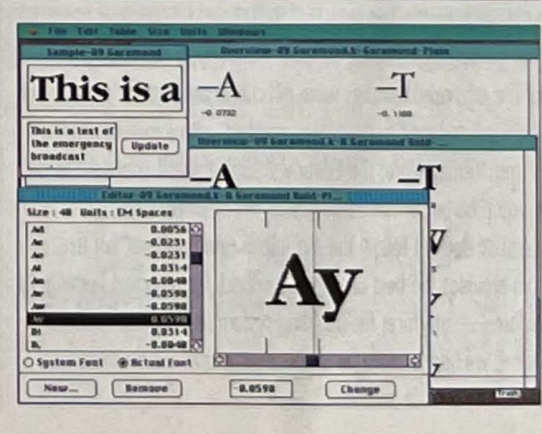
The Overview window displays all the pairs at the size you choose, and their associated kerning values. Double-clicking a pair in the Overview window calls up the Editor window with that pair selected.

Instead of a scroll bar, Kern-Rite's Editor window uses a small triangular handle that you drag for coarse adjustment, and left and right arrows for finer adjustment. Or, you can enter a numeric value in points, picas, inches, millimeters or ems. The Editor

See Comparison, next page



With no-frills LetrTuck Plus, you can adjust the kerning value by using a scroll bar or by typing a kerning value into a text box.



MacKern opens multiple fonts simultaneously and lets you preview your kerning pairs in the Sample window.

Comparison *From previous page*

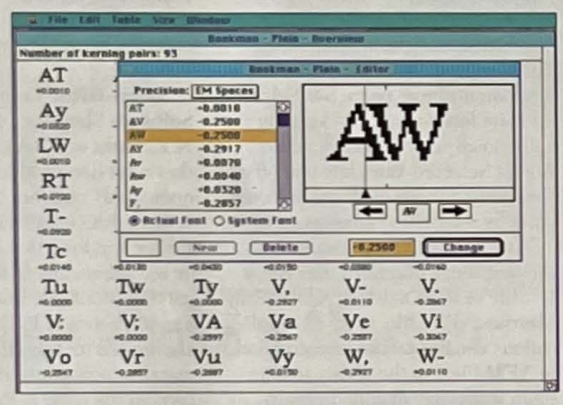
window also contains a text box into which you can type new pairs directly. Kern-Rite lets you select multiple pairs for cutting or copying, but it has no facility for setting or adjusting those pairs as MacKern does.

You can save the new kerning values to the font file or to a Kern-Rite data file. When you do so, you have the option of updating the associated AFM file. Kern-Rite does not read data directly from AFM files, but a separate utility, The File Buckle, converts kerning values from AFM files into Kern-Rite data file format. Kern-Rite offers the same table-merging options as MacKern.

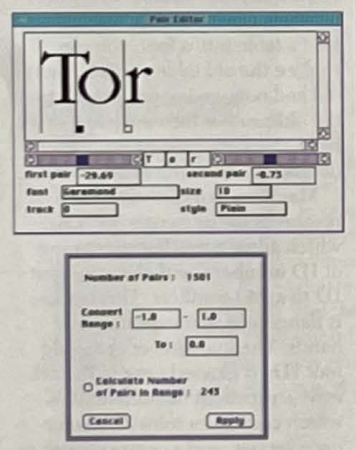
Kern-Rite also lets you change the font ID and convert FONT resources to NFNTs. Again, this subject is not adequately covered in the manual, which is a rather skimpy 24-page affair. A Read Me file on the program disk simply warns that these are power-user features, which if used improperly can render your fonts useless. The program also has a limited on-screen help function.

The Kern-Rite package includes the Font Info DA, which shows font IDs and identifies conflicts.

Kern-Rite features an Overview window displaying all the kerning pairs for the current font, and an Editor window where you create and adjust individually kerned pairs.



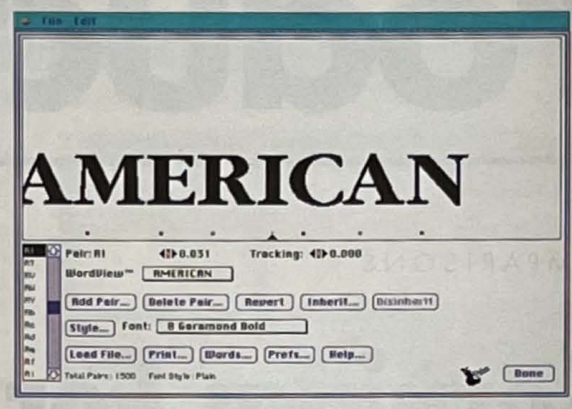
While its Kerningware Editor resembles that of other kerning utilities, Kerningware's statistical approach to manipulating kerning tables is unique.



Kerningware. Kerningware Editor from Kerningware of Toronto takes quite a different approach to defining kerning tables. The company's main product is kerning tables, and the editor is designed to work with those, but it is also available as a stand-alone application. We reviewed Version 1.09, which is identical to the final shipping version, lacking only a manual.

Installing Kerningware tables is quite simple. You place a font suitcase file in a folder along with the tables you want to install and the Kerningware application itself. You launch Kerningware Editor, open the suitcase from within the editor and choose the Install command. The editor automatically installs the correct table in the font.

The kerning tables sold by Kerningware contain about 2,000 kerning pairs for each font, with bold, italic and bold italic styles considered as separate fonts with their own kerning tables. Large kerning tables exact a performance penalty during text composition and printing, and 2,000 kerning pairs is overkill for most purposes. Kerningware has no means of displaying the kerning tables themselves.



KernEdit is notable for its WordView feature, which provides a method for viewing and adjusting kerning pairs in the context of a word.

Instead, it provides filters and statistical tools to help you reduce the number of pairs to whatever level you decide is reasonable.

The first set of tools are language filters. The English language filter includes a list of consonant pairs that do not occur in English. You use it to remove those pairs from

See Comparison, Page 62

In summary: Kerning utilities

EDCO Services' LetrTuck Plus and The Software Shop's Kern-Rite are both fairly basic but serviceable kerning editors, although they suffer from poor documentation. LetrTuck's insistence that you close all open fonts makes it of limited usefulness to Suitcase II or MasterJuggler users. The limitations of both programs make them less than ideal for high-volume work, although either would be adequate for the casual kerner.

ICOM Simulations' MacKern is the most Mac-like of all the packages we looked at, with the best documentation and on-line help. It's also the most expensive. However, its close adherence to the Mac interface and the ease with which you can work on multiple fonts make it a good value for the money.

Kerningware's Kerningware Editor is quite different from any of the other packages. Although some of the advanced features were difficult to use without the manual, we were able to speedily load and modify the tables supplied, with excellent results. If you buy kerning tables from Kerningware, the Editor will suffice, but if you want to create tables from scratch you'd be better served by one of the other packages.

Pairs Software's KernEdit doesn't follow the Macintosh user interface, but its unique WordView feature provides the best on-screen feedback for adjusting kerning. Its intuitive — if non-standard — interface, file-handling system and context-sensitive help make it easy to use. If we had to pick one of these programs, we'd choose KernEdit, with MacKern running a close second.

MacInTouch

RIC FORD AND RICK LEPAGE

Light reading for your Christmas wish list

PRODUCTS

A Christmas wish list. Some interesting books have arrived in recent months that are good candidates for a Mac power user's Christmas list.

"Virus! — The Secret World of Computer Invaders That Breed and Destroy" by Allan Lundell looked sensationalistic and quirky at first glance, but we discovered a wealth of interesting concepts and historical information within its pages. Lundell ranges from analyses of programs to interviews with anonymous hackers and digressions into his own philosophies. The book is not Mac-specific but covers intriguing "cyberbeasts" from many environments, such as the IBM PC Pakistani Brain virus.

At just $9.95 from Contemporary Books Inc., "Virus!" may not be a masterpiece, but it qualifies as stimulating reading.

If you are a C programmer but not yet a Mac programmer, "The Macintosh Programming Primer" by Dave Mark and Cartwright Reed is worth a careful look. Published by Addison-Wesley and selling for $24.95, the book wastes no time with peripheral issues but goes straight to the matter of writing real Mac applications in Symantec's THINK C and making the best use of the Mac Toolbox and resources.

Addison-Wesley also has a new series of Mac networking books, including "AppleTalk Network System Overview" ($14.95), which joins "Technical Introduction to the Macintosh" on the top shelf in our Mac library.

Jan Harrington's "The A/UX Handbook," available for $29.95 from Brady Books, is good for getting acquainted quickly with Unix, should you find yourself in that complicated environment for the first time.

KEVIN BERGER

Controlling scrolling. Ken McLeod's freeware Scroll Limit is a useful Control Panel device. It solves a problem that Apple has never addressed with its new, faster Macs: Some things, such as scrolling icon lists, are simply too fast to control with the mouse. Scroll Limit lets you independently set a delay time and scrolling speed through the Control Panel. The settings can be readjusted on the fly if you need slow or fast scrolling for a particular task.

Scroll Limit is available from online services and users groups.

BUGS & TIPS

Quantum knocks. It's never a good idea to jar a Winchester hard disk, but if your Quantum drive (Apple-labeled or from a third party) fails to start up and exhibits the classic Apple/Quantum symptoms (see MacWEEK, Oct. 10), you might try an unauthorized procedure that we have used successfully to get access to the drive's data.

First, try turning the disk power off and on slowly and repeatedly, each time restarting the Mac. If the disk installer software still cannot mount the disk on the desktop or recognize it to refresh its driver software, then turn the disk power off and let the disk stop spinning. At this point lightly knocking the disk with your hand may be enough to jar it loose and allow it to mount successfully the next time you restart the computer.

XPress import filters. Quark Inc.'s QuarkXPress has not been able to import files created with Microsoft Word 4.0 or MacWrite II, even though both word processors have been available for quite some time. Users have had to save their files in Word 3, MacWrite 5.0 or Text Only format to get them into XPress.

Quark has finally finished its new Word and MacWrite filters for Version 2.1 of XPress and has placed them on GEnie, Connect and CompuServe's MacDesign forum.

REFERENCE

Addison-Wesley Publishing Company Inc., Route 128, Reading, Mass. 01867; (617) 944-3700.

Brady Books, a division of Simon & Schuster Inc., 15 Columbus Circle, New York, N.Y. 10023; (212) 373-8093.

Contemporary Books Inc., 180 N. Michigan Ave., Chicago, Ill. 60601; (312) 782-9181.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600. Electronic Mail: CompuServe: (Ric Ford) 75056,1225, (Rick LePage) 76117,1765; Delphi/PAN: MACWEEKBOS; GEnie: MACWEEKBOS; Connect: RICKLEPAGE, RICFORD; MCI Mail: MACWEEKBOSTON; Internet: MACWEEKBOSTON@MCIMAIL.COM; AppleLink: (address to "MacInTouch" in Subject): MACWEEK.

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Comparison

From Page 60

the kerning table. Filters for other languages will be made available.

The Statistics command determines the most common kerning value. Subtracting that amount from the entire table sets all pairs having that value to zero while leaving the relative character spacing unchanged. The Delete Zero Pairs command then removes them. You can also specify a range of kerning values and set all pairs within that range to zero, or you can zero pairs based on either their first or second character.

After weeding out unnecessary pairs, you print a test sheet using the Print Sample command (using any text file as the sample). Then you fine-tune suspect pairs in the Editor window. The results are saved to a new font suitcase file that is automatically named with a ".k" suffix.

KernEdit. KernEdit from Pairs Software Inc. of Toronto departs from the Macintosh interface more than any of the other packages here, yet it provides an easy-to-use WYSIWYG kerning environment. All editing takes place in a single window with buttons and pop-up menus.

When you launch KernEdit, it prompts you to open a font suitcase file. Upon opening the suitcase file, the Editor window appears. A pop-up font menu lets you select any of the fonts in the suitcase file. You can work on only one font at a time, but you can kerning all the fonts in the suitcase file without closing the Editor window.

The most noticeable feature in the KernEdit window is the kerning area itself. Rather than display only the current pair, KernEdit uses a feature called WordView that displays the pair in the context of a word. The WordView pop-up menu shows all the words in the word list that contain the current pair. You can add new words to the list by clicking the Words button.

The active pair is marked by a small triangular adjustment handle that you can drag to adjust the kerning value. When you drag the handle, the characters move in real time, providing instantaneous visual feedback. For finer adjustment, you can click one of two arrows to increase or reduce the kerning value by one one-thousandth of an em space. Clicking the square between the arrows sets the kerning value to zero.

Other kerned pairs in the word are marked with a small black square, while pairs with no kerning value have a small white square. You can jump to another pair by clicking on the square. A scrollable list at the left of the window displays all the pairs in the current font. You can step through them by clicking or by using the arrow keys on the keyboard. If you jump to another pair in the WordView then use an arrow key to go to the next or previous pair, KernEdit remembers your place in the list.

An Inheritance feature lets you automatically adjust accented pairs, such as "ér," "ër" and "èr," to the same kerning value as the unaccented pair "er." You can also kern these pairs individually.

When you've adjusted all the kerning pairs to your satisfaction, you click the Done button. KernEdit then gives you the choice of saving either to a new font file, which it names by adding the suffix ".k" to the original suitcase name, or to a KernEdit data table that you can load into other fonts.

The documentation is scanty, but the intuitive operation and an excellent context-sensitive Help feature make the manual largely unnecessary.

In addition to KernEdit, Pairs also sells packages of kerning data tables. Each package contains from 21 to 26 tables, for four or five font families.

Conclusions. All the kerning programs reviewed here do the basic job adequately. Your choice should be based on how much use you intend to make of the program and any special features you need. Generally, the more expensive packages offer more functionality. You should also determine whether you need pre-prepared kerning tables, which only some of the packages have. □

Product Info

EDCO Services Inc.
LetrTuck Plus (with tables for LaserWriter Plus font set): **$147**
(813) 962-7800

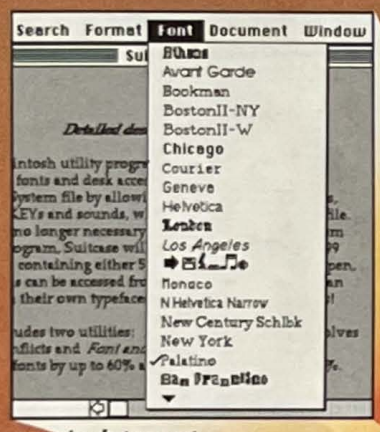
ICOM Simulations
MacKern: **$195**
(312) 520-4440

Kerningware
Kerningware Editor: **$150**; with kerning pairs for LaserWriter Plus fonts: **$250**; with kerning pairs for all Adobe fonts: **$1,200**
(416) 247-7976

Pairs Software Inc.
KernEdit: **$149**
kerning tables: **$95** per package
(416) 467-8784

The Software Shop Inc.
Kern-Rite (includes Font Info DA): **$89**
(516) 785-4422

Open The Window Of Font/DA Management Possibilities.



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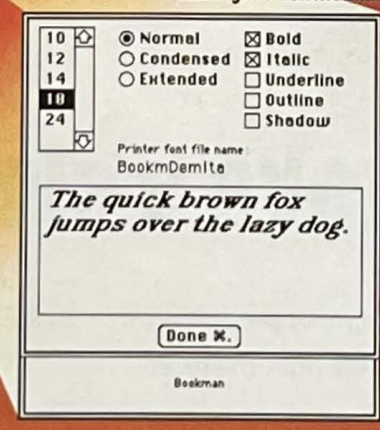

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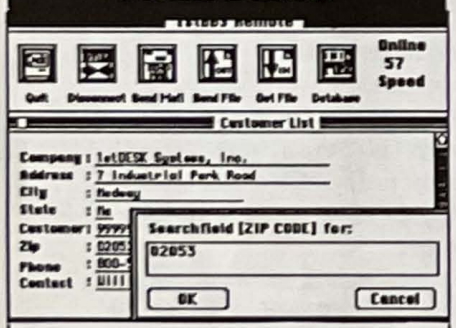

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REVIEWS

MarkUp: Groupware landmark

Multiple readers can edit same document

By Dale Coleman

Even though they are still called personal computers, the personal computers found in the corporate environment today are usually networked with other personal computers in order to share information. This information almost always takes the form of documents, so sharing information usually means sharing documents. Mainstay has addressed the challenge of group review of computerized documents with MarkUp, a breakthrough in the nascent category of software called groupware.

MarkUp is designed to duplicate a hard-copy editing system while adding a level of security and an audit trail that are only possible on a computer. Because it is based on a familiar paper model, users should find MarkUp easy to understand and work with in spite of its power and flexibility.

How it works. There are two main tasks in document management: annotation and distribution. MarkUp offers a rich set of features to facilitate these processes. MarkUp creates an image of your document as it would look if printed and lets you store the image in a centralized database, control and monitor who reviews it, and examine the users' annotations.

The creation of the document image is handled by the MarkUp Document Creator printer driver, which is selected via the Chooser. The resulting image is stored in a database called a document center, which can reside on a local drive but is usually located on a shared device such as an AppleShare server volume or on a volume published by a TOPS node. The version we tested handled all major Mac applications except HyperCard and QuarkXPress. A free upgrade supporting both these products is expected to be available by the time you read this.

A document center is actually a folder containing the files that are used to track the review process. Document centers are created with the MarkUp Administrator, which also is used to assign reviewers and their passwords and to define groups of reviewers.

MarkUp provides a full status report of the progress of the revision process, including the document's name and owner, the number of the reviewers who have revised the document, and the date it was created. MarkUp includes an electronic-mail feature for communicating with other members of the group. The auditing feature lets you check the document center from time to time to monitor whose annotations are finished.

MarkUp also provides a solution for the reviewer who is not on the network. A document image can be merged with the MiniMarkUp application and sent to a remote reviewer for annotation. When the file is returned, the remote reviewer's annotations can be easily integrated with those of the rest of the group. Users of 2,400-bps or slower modems should note that the MiniMarkUp application adds about 154 Kbytes to the size of a document image.

The annotation process. Rather than edit a document in the document center directly, you make changes on a transparent overlay. Each reviewer creates and uses his or her own overlay. The owner of the document can then review each overlay individually or quickly combine all or selected overlays into one master overlay.

Mainstay has done an outstanding job of automating the editing process. Those familiar with Mac object-oriented drawing programs will immediately be comfortable creating and using MarkUp overlays. In addition to offering complete control over font, style and size of text, a familiar toolbox includes traditional drawing tools. A palette of 24 standard proofreader's marks also is available. Color can be specified even if you are working on a monochrome system. If these tools are insufficient, any MacPaint or PICT graphic can be imported easily. Any-

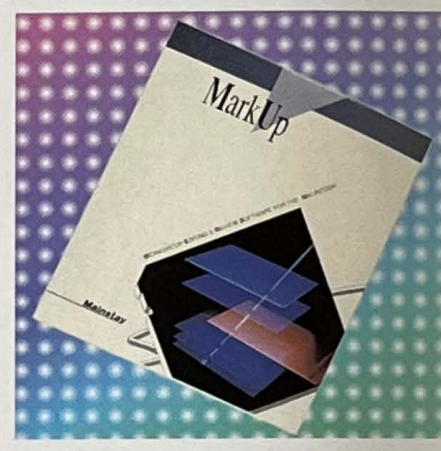
See MarkUp, Page 70

MarkUp 1.1

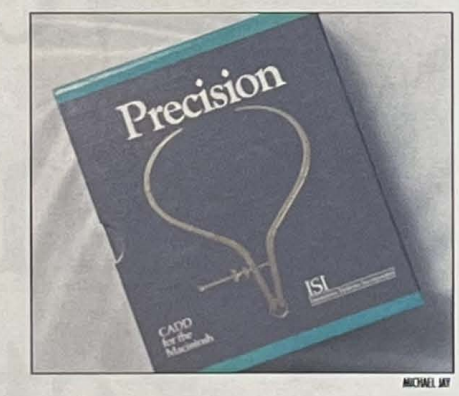
Mainstay
List prices: $245 for single user, $495 for two-user pack, $995 for five-user pack

+ Rich set of annotation tools; audit trail of document review process.

− No on-line help; minor interface problems.



Precision 1.2 misses the mark



MICHAEL JAY

Precision 1.2

Innovative Systems Inc.
List price: $295

+ Good general CAD program with floating-point database; DXF and IGES translation; built-in plotter support; macros; comparatively low price; auto-save ensures security.

− Non-standard cut and paste, object selection and editing; buggy; no tutorial or on-line help; slow.

By Phillip Robinson

Most early Macintosh CAD packages took their cues from MacDraw. They stuck with the proven interface but had greater precision and a range of drafting commands. The exceptions were often buffeted in reviews for their interface heresies.

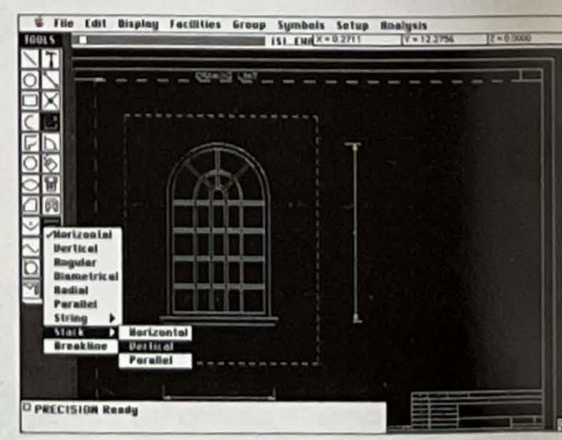
Ironically, after the Mac's consistent interface started to sell well in the corporate world, new CAD programs started appearing that deviated slightly or entirely from the Mac interface. These new CAD players often had solid reasons for their deviations. AutoCAD Mac, for instance, was designed to look much like the best-selling AutoCAD for the IBM PC.

Precision is a new 2.5-D Mac CAD program that traces its heritage to Summadraft, a 10-year-old minicomputer CAD package. Innovative Systems Inc. bought the rights to Summadraft and rewrote it for the Macintosh. The company says the functionality of the mini software has been retained, but the interface is all Macintosh.

A tour through the latest version, Precision 1.2, shows a program that is pure Mac in some aspects, painfully minicomputer in others. Precision follows many Macintosh standards with its pull-down menus and dialog boxes, but it breaks a number of Macintosh and MacDraw conventions. For example, you won't find standard cut and paste operations, and many commands must be selected before objects are selected. There's a lot of power in Innovative Systems' surprisingly inexpensive package, but it isn't thoroughly documented or easy to learn.

Logistics. You'll need at least a Mac SE/30 or II-family model with 2 Mbytes of RAM to run Precision. You may also want a color display — Precision can work with

See Precision, Page 66



Precision offers many options for its drawing tools. The Dimensioning tool, for example, needs several levels of pull-out menus to contain all choices.

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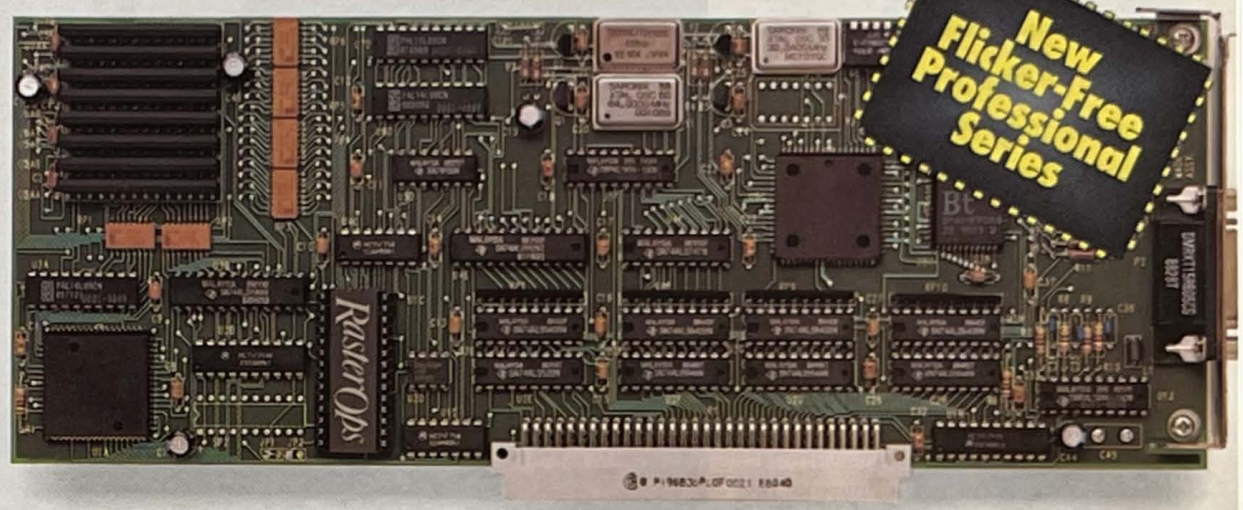

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Precision

From Page 64

eight different colors and can assign them to a variety of pens and layers.

A fast hard disk is important because Precision constantly saves what you're doing while you work by mirroring any operations to the disk file. This constant disk accessing slows down the program, which is not fast to begin with. In fact, although we appreciate the protection from power failures, we'd like to have the option of turning the auto-save feature off.

Any CAD program with the full precision of a floating-point database, such as this one, is staring at a speed problem. The disk factor makes the speed problem immediately noticeable, even on the fastest Macs. You can easily "mouse ahead" of Precision, laying down points for a curve or polygon, for instance, faster than Precision can pick them up. At the very least this causes confusion or an aborted drawing operation because interim steps are missed. We also managed to freeze the program, eliminate the cursor and scramble the display into a snowstorm, problems that might be due in part to this disk dependence.

There's a lot of power in Precision and the program is surpisingly inexpensive, but it isn't thoroughly documented or easy to learn.

Precision comes with built-in plotter support and a plotter spooler for popular Hewlett-Packard, Houston Instruments, JDL and Graftec plotters. It can also work with regular Mac printers. Included with Precision is a separate translation utility for DXF (Drawing Interchange Format), IGES (initial graphic exchange specification) and Summa files that works quickly and painlessly. These standard features would set you back more than Precision's full price if purchased as options for most CAD programs.

You can open only two drawings at a time in Precision, fewer than in most CAD programs. But there are some unique options for merging drawings on screen or in disk files, and for listing the contents of a file as plain text. While viewing files you can zoom in or out (though only in 12.5 percent increments), pan and set your own views. Any object can have a z dimension — this feature accounts for the 0.5-D in 2.5-D — and you can view your drawings in xy, yz, xz or 3-D perspective. There's also a unique superimposition command for viewing one drawing on top of another.

Tool palette. Precision's tool palette looks disarmingly like MacDraw's. However, it's not as straightforward. You can choose tools that draw standard shapes, such as circles, rectangles and lines; tools that draw more-sophisticated objects such as splines, parabolas and tangents; and even a complex architectural wall tool.

Chamfers, fillets and cutouts round out the list. Each tool has its own options. The Line tool alone has 10 different sub-functions for constructing lines.

In classic minicomputer fashion, you must also choose a point-definition method for any drawing work. Then you specify the relevant points on the drawing area by typing in the numbers or using a digitizer. Commands and coordinates can include abbreviations and mathematical functions. Any drawn objects can be defined as "construction" lines to be saved with the drawing but not printed.

Text and dimensions. Text in Precision is not standard Macintosh fare; it's made for plotting. The Text tool lets you enter text in a box or as a string, and you can also select a plotter font, text aspect ratio and so on. You may cut and paste within a text block, and there are simple justification settings, but you don't get to choose font, style and size in normal Mac fashion.

Precision can add dimensions to almost any object, be it linear, angular or radial. Dimensions can be strung out or stacked, and there are many format options. However, dimensions aren't associative, so they don't change when you change an object. Nor do the dimensions include tolerancing, which is important for close work. Precision does pack an Analysis menu that can calculate the areas and angles of many objects — even the centroid of a polygon.

Precision's symbol library is uneven. It can hold a whopping 4,100 objects, but since it doesn't show them in a graphic window for selection, you must choose them by name. Nor can you save a selected object or group as a symbol — you can save only an entire drawing. You do have the option of global or local placement. Symbols placed globally are hot-linked and will all be updated in response to a change in the base symbol.

Editing. Don't look for classic cut-and-paste here. Precision has many editing operations, but those aren't among them. You can delete, modify, move, extend, trim or cut any object by selecting the operation and then indicating the germane object. Precision does give you fine-grained control over

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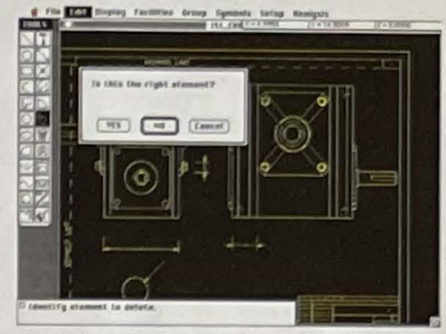
object selection — you set the search tolerance by units in x, y and z dimensions. However, it may not be easy to select the object you point at, and the error messages don't explain why. A Verify function will flash the object you have selected and ask for confirmation, but the confirmation dialog box often obscures the flashing object.

You may also delete, modify or move objects that you frame with a selection rectangle. Objects inside or outside the rectangle can be selected, and objects crossing the frame boundaries can be included as well.

You may group and ungroup objects, but you can't name them or assign them to hierarchies.

More sophisticated editing commands include a powerful step-and-repeat function that lets you choose the path, offset and number of copies. Mirror and Reflection options can be used for copies, and there is a Section command. The Crosshatching feature lets you create your own patterns, but doesn't provide a graphic preview of the pattern or a library of standard patterns.

Editing takes place on a background grid that you can size and skew. Objects can also snap to any axis by a specified amount. You can choose line styles, pen numbers (up to eight colors and 48 pen widths) and layers. Unfortunately, only four of the line styles show on screen — the others appear only when you plot. There are 255 possible layers, although only 10 can be active at a time and you cannot assign names to layers. The pen numbering and color limits are more evidence of the program's bent toward plotter output. Most of these preferences can be saved as a State, which will automatically reappear when the drawing is reloaded.



Precision's Verify option doesn't quite make the grade. In this screen the object we tried to select is supposed to blink, but it is entirely covered up by the Verify dialog.

There's an Undo command that only reaches to the latest operation, but redraw and plotting can be canceled at any time. You can also repeat commands automatically (they remain selected after use) or through Precision's macro feature. Macros can be recorded, saved and played. They are editable text files of Precision commands with interspersed control punctuation.

Documentation and support. Adding insult to injury, this program of un-Mac-like object selection and editing has no on-line help and its reference manual is short on illustrations and totally without tutorials. It comes with only two very simple sample drawings and a single short symbol library. (The manual promises a free mechanical/architectural library when you register.) The lack of instruction hurts even more when you consider that macros, symbols and drawing files can all be viewed as text and edited. At least technical support is unlimited and toll-free.

Conclusions. When we reviewed Claris CAD in early 1989 (see MacWEEK, March 28), we felt that it resembled a student who earned A's until the last year of high school and then dropped out. Claris CAD's features are easy to learn and use, neatly organized and quick. Higher-level features are just missing entirely. Precision feels more like a student who has earned A's in some subjects, but missed a number of important courses along the way. Too many features are incomplete, lacking graphic menus or basic options. For example, you cannot view symbols when you go to choose one, nor can you convert a single object or group in a drawing into a symbol.

Add to this the sluggish performance and the freezes and crashes, and we're not at all comfortable with Precision. However, there are some fine features here, such as the editable macros (which could practically be an extension language), the Walls command, the flexible grid and the point-definition settings. There's also the z dimension, something Claris CAD and Graphsoft's BluePrint don't have. Precision's minicomputer origins just drag it too far away from Mac ease. If Precision had a mincomputer price to match, we'd dismiss it entirely. But a $295 CAD program with a floating-point database; scores of drawing tool options; DXF, IGES and Summa translation; and thorough plotter support deserves attention. A more reliable, better organized, thoroughly documented, more graphic Precision with an option to turn off the automatic file saving would be welcome. Until those improvements are made, however, Precision is probably only a good choice for those with a Summadraft background or installation.

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Reviews in Brief: EXPOSURE • SCRIPTEDIT

Exposure 1.0.2

If screen dump utilities generate "snapshots," then Exposure 1.0.2 could produce "Gone With the Wind." It's the behemoth of the screen-dump world, a monster Control Panel device of more than 300 Kbytes.

Not only does Exposure capture a screen image to disk (or to the Clipboard or Scrapbook), it contains a basic painting toolbox so you can perform many of the touch-ups you'd normally do with a black-and-white or color painting program.

We liked Exposure's approach to capturing the screen: When you invoke the utility, it displays the full-screen snapshot and a floating windoid with all its tools and menus — there's no guessing about how the screen dump will look. But the program's attempt to squeeze all the features of a color painting program into one little tool palette leads to a very non-standard, awkward and confusing user interface.

Among the endless number of bells and whistles in Exposure there are some we truly appreciate, such as the ability to direct saved files to any volume or folder, and specify a file's default prefix (such as Dump0 or Dump1). You can even rename files individually as you save them.

But despite the nice touches, we think Exposure is a case of overkill. Though we found the program's basic screen-capture features satisfying, doing something as simple as screen dumps shouldn't require a 150-page manual and a program bigger and harder to learn than many stand-alone applications.

Exposure 1.0.2 retails for $99.95. For more information, contact Preferred Publishers Inc., 5100 Poplar Ave., Suite 706, Memphis, Tenn. 38137; (901) 683-3383; (800) 446-6393. — *By Dennis Klatzkin*

ScriptEdit 1.1

Anyone who's done even a little scripting in HyperCard knows that its built-in HyperTalk script-editing environment is dismal. The editor's features are very limited, scripts can only be viewed one at a time, and they're displayed in a window that you must close in order to access any menus, desk accessories or other applications.

ScriptEdit 1.1 from Somak Software Inc. is a DA and external command (XCMD) duo providing a full-featured script-editing environment that smoothly integrates into HyperCard. With ScriptEdit installed, you can open multiple script windows at a time; you choose scripts from an index window that automatically gives an overview of all stack objects, even hidden ones.

See Reviews in Brief, Page 70

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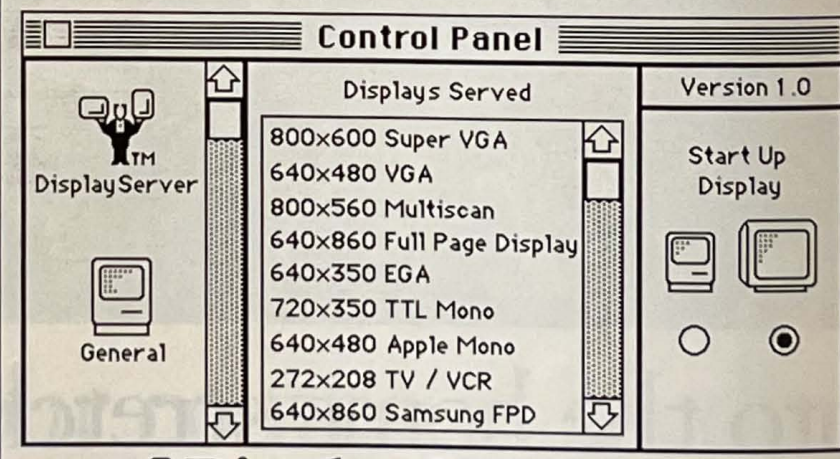

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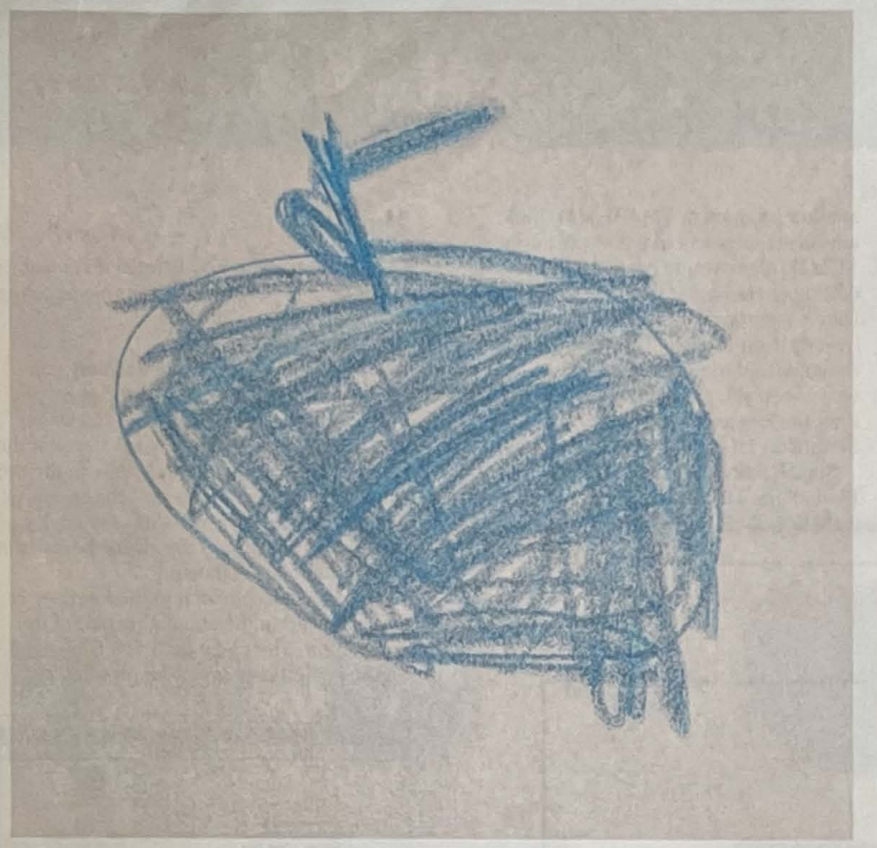

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Reviews in Brief

From Page 68

With ScriptEdit's windows open, you can still access many of HyperCard's menu options (such as navigation commands), as well as DAs and other applications (under MultiFinder). However, HyperCard jealously restricts access to its window, so you cannot send mouse events to HyperCard while ScriptEdit is open. We wish HyperCard was more flexible in allowing add-ons with their own windows.

ScriptEdit provides many text-formatting features, allows sophisticated search and replace operations through multiple windows, and can even compare two scripts for differences. Its editing windows have pop-up menus that show all of HyperCard's commands, functions, properties and other keywords.

We found a lot to like about ScriptEdit, but perhaps the most sublime feature is that it can open and save scripts as text files — to save scripts as text files with the standard HyperTalk editor, you must copy text, close the editing window and paste the text into another program or DA. We also think advanced users will like the way ScriptEdit's XCMDs allow you to control and enter the editing environment from either HyperCard's message box or from within scripts.

ScriptEdit is one of the most well-designed and useful HyperCard add-ons we've seen yet, and we strongly recommend it for novices and seasoned scripters alike. ScriptEdit 1.1 retails for $79.

Somak Software Inc. is at 535 Encinitas Blvd., Suite 113, Encinitas, Calif. 92024; (619) 942-2556. — *By Dennis Klatzkin*

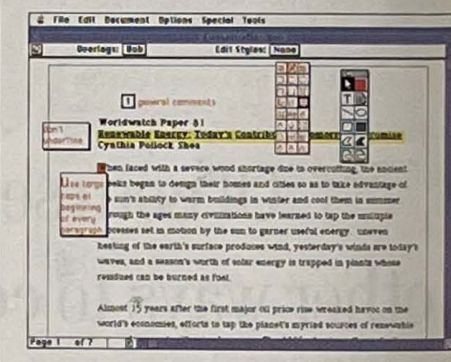
MarkUp

From Page 64

thing put on an overlay is treated as an object that can be repositioned by simply selecting and dragging it.

Criticisms. MarkUp does a very good job of emulating the document review process, but the user interface is inconsistent and inelegant at times. At some stages of the process, most of the interaction with the program is through dialog boxes. For example, before a document is actually created, the user has to respond to five dialog boxes after issuing the print command.

This curious approach to the interface is also reflected in the annotating part of the application. The tool palette is a tear-off floating palette, whereas the proofreader's



MarkUp's annotation tools include a drawing palette, a pop-up palette containing 24 standard proofreader's marks and automatically numbered pop-up notes.

marks are accessed via a pop-up palette obtained by holding down the Option key while clicking on an active overlay.

MarkUp's method of paging through documents during annotation is another annoying aspect of the interface. The small directional page pointers at the bottom of the window only permit moving through pages sequentially. While this method is adequate for short documents, paging through longer documents soon becomes tedious.

Documentation and support. The documentation consists of a 148-page Users Guide and Reference volume and a 51-page tutorial, both of which are well-designed. The tutorial provides everything most new users will need to get up to speed, and the Users Guide and Reference covers the details. Unfortunately, both documents appear to have been printed at 300 dpi. While this may seem to be a minor point, appearances are important in the corporate environment, especially for a product in this price category. There is no on-line help. Technical support is available via a toll call.

Conclusions. In spite of a few shortcomings in its interface design, MarkUp is a landmark product. It ably demonstrates that groupware is a viable concept, and it does an admirable job of automating the document review process while extending the process with significant new capabilities.

We suspect that Mainstay's customers will voice many of the same complaints that we have, and that Mainstay will respond by revising and enhancing the product. (A major upgrade supporting voice annotation is already in the works.) In the meantime, a potential competitor would find it difficult to come up with a more comprehensive approach to group document revision. The first generation of groupware has arrived.

Mainstay is located at 5311-B Derry Ave., Agoura Hills, Calif. 91301; (818) 991-6540. □

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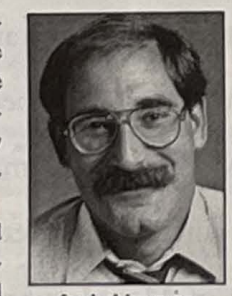

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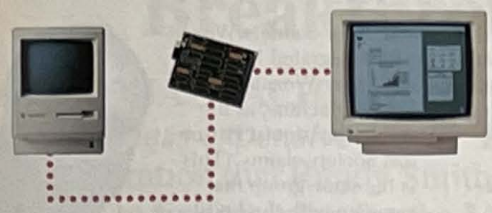

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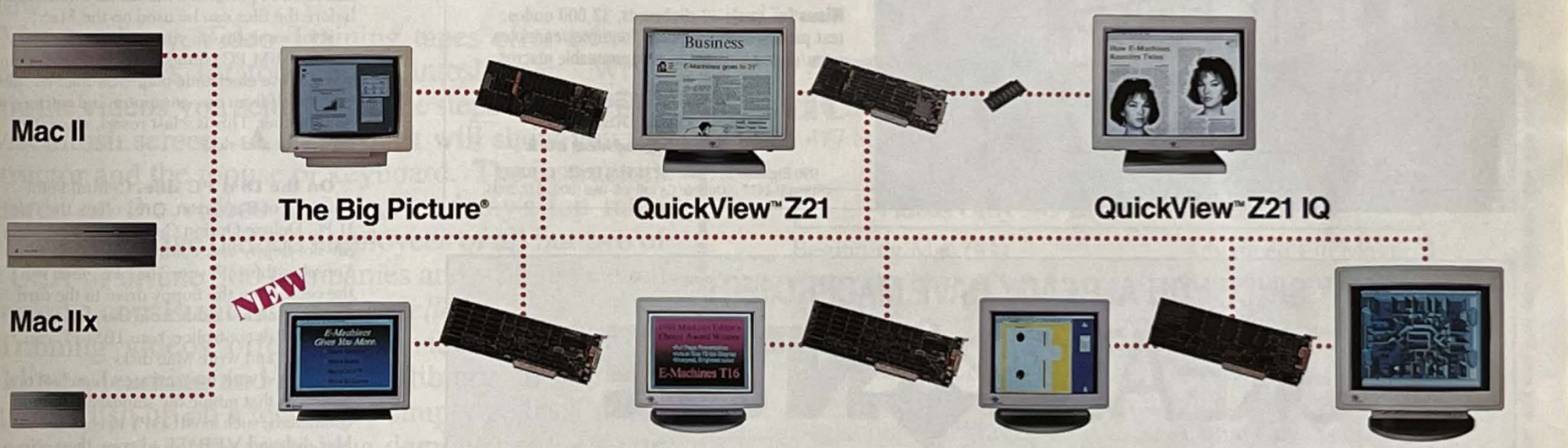

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Help Desk

Still more PC-to-Mac transfer solutions

BY DAVID RAMSEY

In my last column I discussed some methods of transferring and translating files between an IBM PC and a Macintosh using Apple File Exchange, DataViz's MacLinkPlus, and Dayna Communication Inc.'s DOS Mounter and DaynaFile. This week's installment describes additional methods of accomplishing the same things.

Rapport. Kennect Systems of Campbell, Calif., founded by Apple III architect Wendel Sanders, markets a clever item called the Rapport. This small device plugs into the external floppy port of Macs that are so equipped and enables external 800-Kbyte drives to read and write 720-Kbyte DOS disks. The Mac's internal drive can also read, but not write, DOS disks when the Rapport is attached.

Sanders helped design the SWIM disk-controller chip that Apple uses in Macs equipped with an FDHD (floppy disk high-density) drive; the SWIM acronym really stands for Sanders/Wozniak Integrated Machine, not Super Wozniak Integrated Machine, as the Apple Revisionist Historical Society claims. (This is the same group that came up with the Local Integrated Software Architecture acronym to explain the Lisa.)

Kennect Systems also sells an external 3.5-inch drive that can store up to 2.4 Mbytes on a Mac high-density disk when used with the Rapport, as well as read and write 1.4-Mbyte DOS disks.

Communications and serial links. If you don't need to transfer files often, you can use ordinary communications programs to send files over the serial ports. The machines must be close enough for their serial ports to be connected, or you can connect them via modem. There are communications packages specifically designed for such file-transfer operations. Trumbull, Conn.-based DataViz's MacLinkPlus stands out. So does MacChuck from Vano Associates of New Brighton, Minn., which lets you completely control an IBM PC from a Mac via serial cable, modem or LocalTalk network. The IBM PC screen is duplicated in a window on the Mac screen, and anything you type on the Mac is sent to the IBM PC. MacChuck also provides MacBinary file transfers from the IBM PC to the Mac, which is a real help if you've downloaded Mac files from a service on your IBM PC and need to perform a MacBinary translation before the files can be used on the Mac.

If for some reason you can't get the Mac and the IBM PC connected, even by modem, you can use electronic mail: You mail the file to yourself from one computer and retrieve it on the other. This is a last resort, since it's expensive and slow.

On the IBM PC side. Central Point Software of Beaverton, Ore., offers the Copy II PC Deluxe Option Card, a half-size, eight-bit-slot floppy disk controller for IBM PCs. You plug this into your IBM PC, then run the cable from the floppy drive to the card and run another cable from the card to the regular disk controller. Your IBM PC can now read and write Mac disks.

Included with the card are a bunch of tiny programs that mimic the standard DOS file commands, such as MCOPY to copy files to a Mac disk and MERASE to erase them. No translation software is included, but at about $150 retail, the card is fairly cheap.

Networking. If both computers are connected to the same network, file transfer is often easy.

Apple sells the LocalTalk PC card for "classic bus" — not Micro Channel Architecture — computers. Orchid Technology of Fremont, Calif., offers a Micro Channel LocalTalk card for IBM PS/2 users. With either card you can mix Macs and IBM PCs on a network with AppleShare or TOPS networking software, or even your favorite E-mail program. Moving files is pretty easy, but there's no translation performed, although Apple File Exchange can be used just as it is used with floppies.

Next column: Just what is the System heap, anyway? □

Please send questions to David Ramsey on CompuServe: 76702,335 or to Help Desk, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

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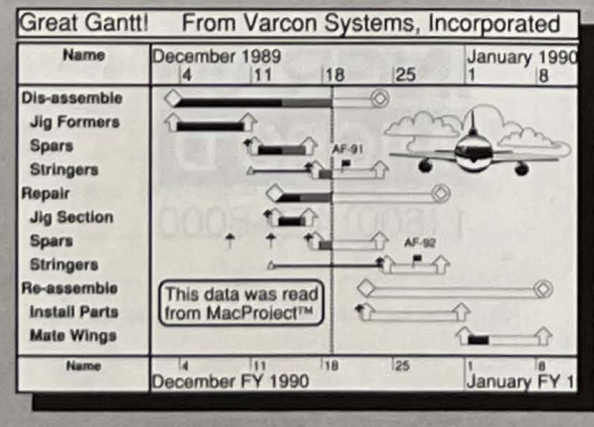

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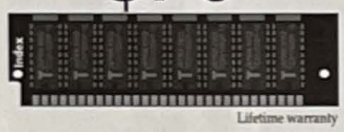

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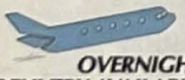

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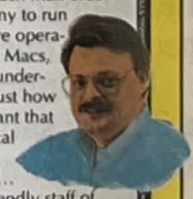

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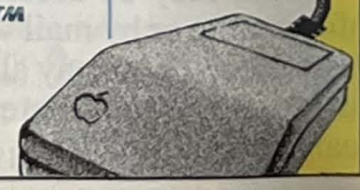

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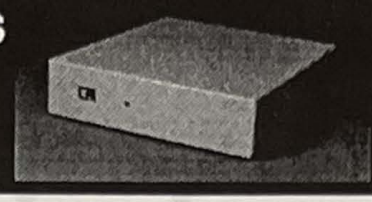

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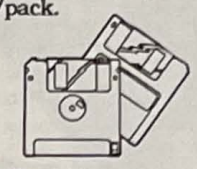

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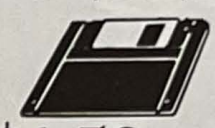

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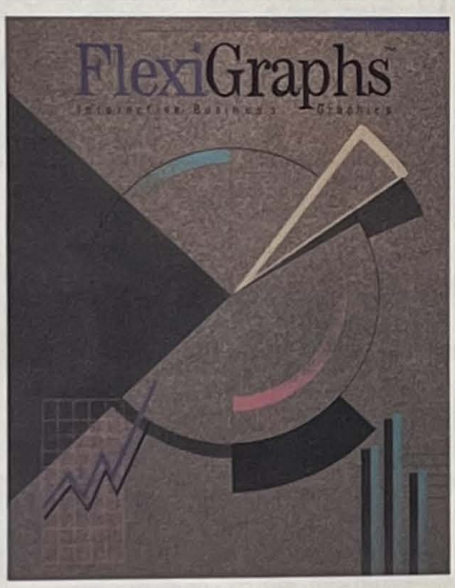

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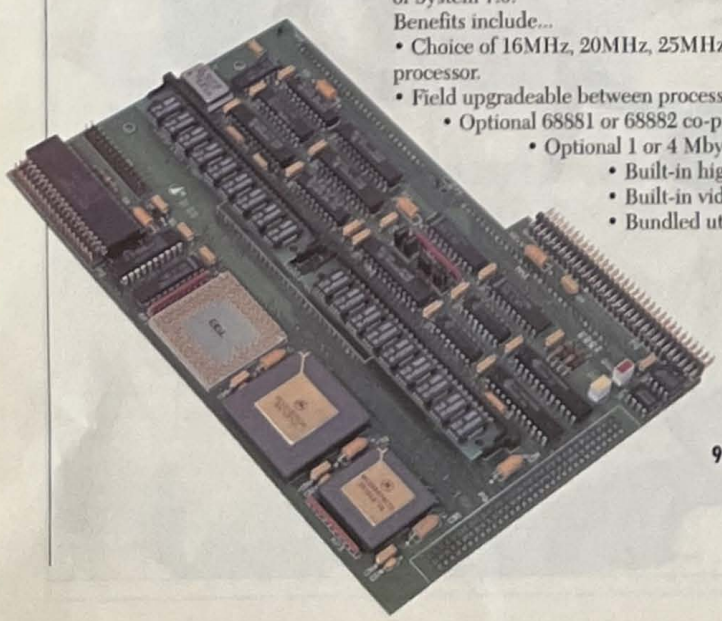

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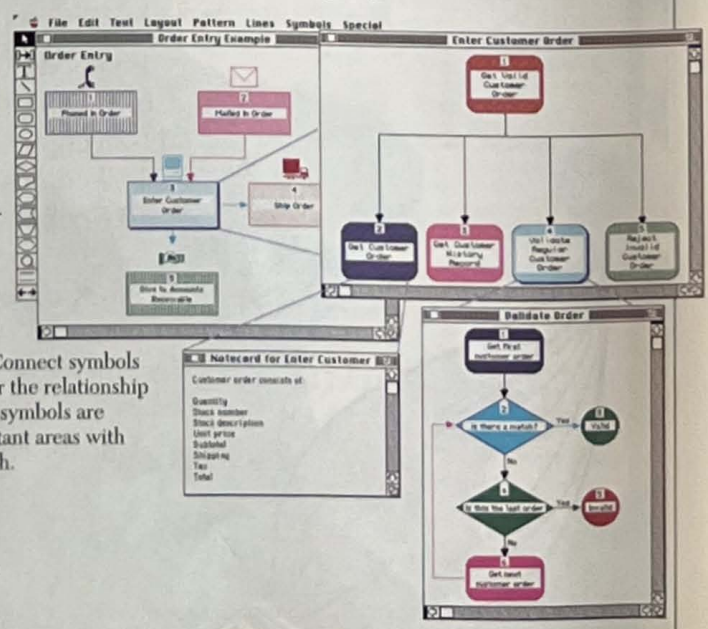

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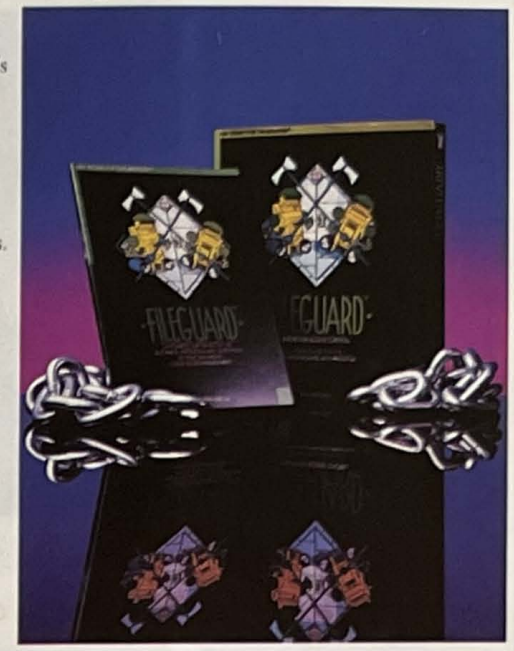

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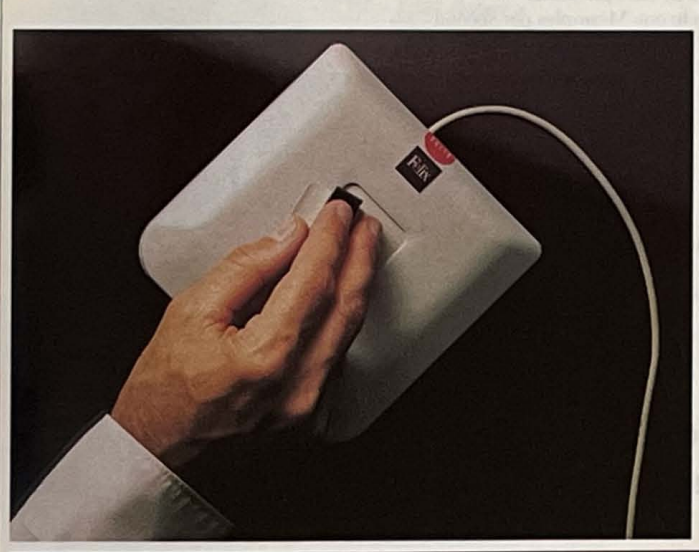

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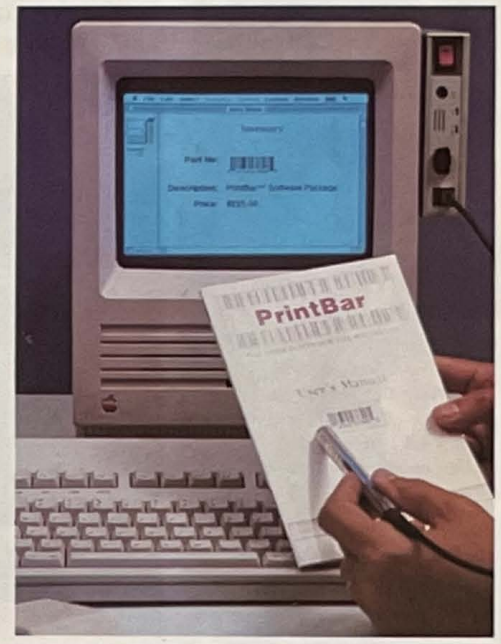

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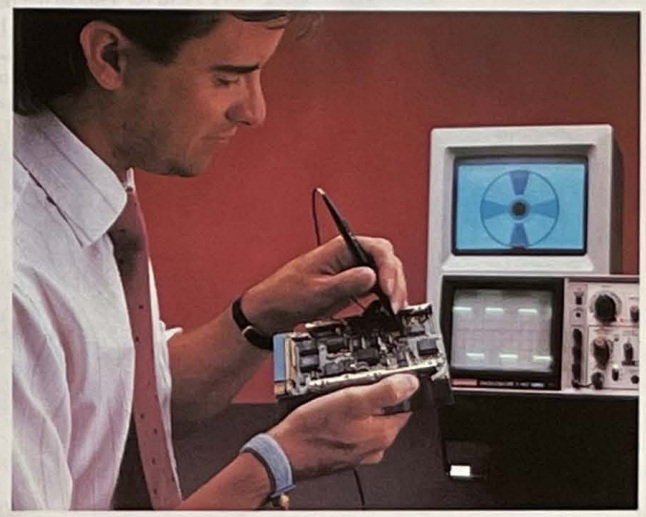

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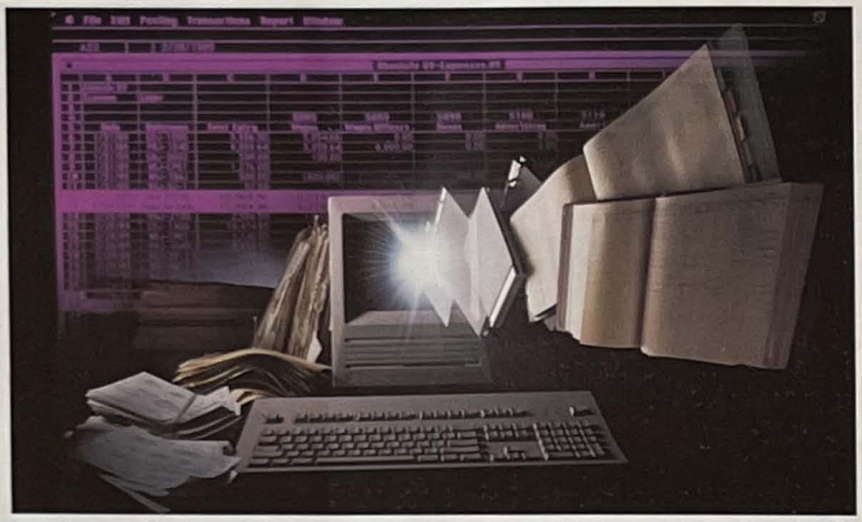

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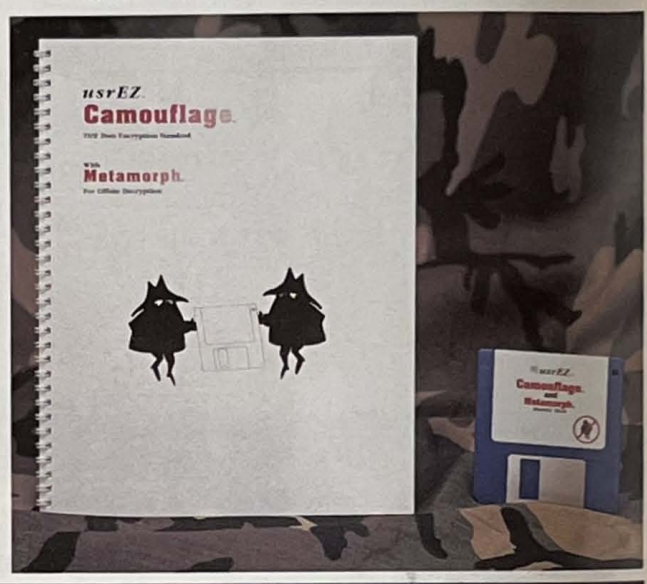

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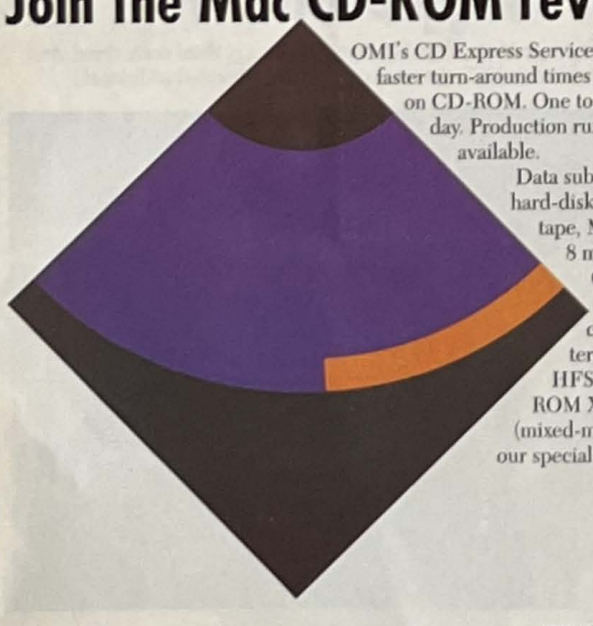

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9B44

1 Your company's primary business activity AT THIS location (check one only):

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- ☐ 01. Aerospace
- ☐ 02. Architecture, Engineering
- ☐ 03. Research and Development
- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal
- ☐ 12. Retail, Wholesale, Distribution
- ☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related
- ☐ 20. VAR/VAD
- ☐ 21. Retailer/Distributor
- ☐ 22. Systems House/Data Processing Service
- ☐ 23. Manufacturer (Computers, Software, Peripherals)
- ☐ 24. Computer Consultant
- ☐ 99. Other Businesses & Services (please specify) _____

2 Your Professional Title (check one only):
- ☐ A. Chairman/President/Owner/Partner
- ☐ B. VP/Controller/Treasurer
- ☐ C. General Manager/Director
- ☐ D. Micro Manager/Specialist/Coordinator
- ☐ E. Project Manager
- ☐ F. Art Director/Graphic Designer/Artist/Illustrator
- ☐ G. Manager/Supervisor (not listed above)
- ☐ H. Architect/Engineer
- ☐ I. Systems Analyst/Programmer
- ☐ J. Consultant/Advisor
- ☐ K. Scientist
- ☐ L. Educator
- ☐ M. Editor/Writer
- ☐ N. Professional (Doctor, Lawyer, etc.)
- ☐ O. Accountant
- ☐ P. Representative
- ☐ Z. Other (please specify) _____

3 Your department/function at this location (check one only):
- ☐ A. Engineering/Systems Engineering
- ☐ B. Research & Development
- ☐ C. Communications/Publishing/Public Relations
- ☐ D. Art/Creative Design
- ☐ E. MIS/DP/Information Systems
- ☐ F. Manufacturing/Operations/Production
- ☐ G. Sales/Marketing
- ☐ H. Administration/Management/Personnel
- ☐ I. Accounting/Finance
- ☐ J. Education/Training
- ☐ K. Science
- ☐ L. Consulting
- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

		Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1		
Macintosh IIci	2		
Macintosh II	3		
Macintosh SE/30	4		
Macintosh SE	5		
Macintosh Portable	6		
Macintosh Plus	7		
Macintosh (Other)	8		
IBM/Compatible Micro	9		
Workstation (e.g. Apollo, Sun)	10		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

Required: Company name and company street address must be written below or applications cannot be processed. *Please print.*

First Name _____ Last Name _____

Title _____ Business Telephone _____

Company Name _____

Division _____ MS _____

Street Address (Where you work) P.O. boxes not accepted on this line. _____

City _____ State _____ Zip _____

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address _____

City _____ State _____ Zip _____

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):
☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

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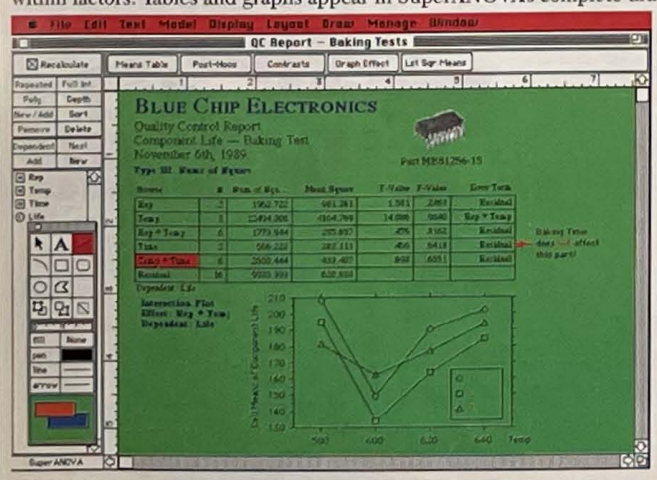

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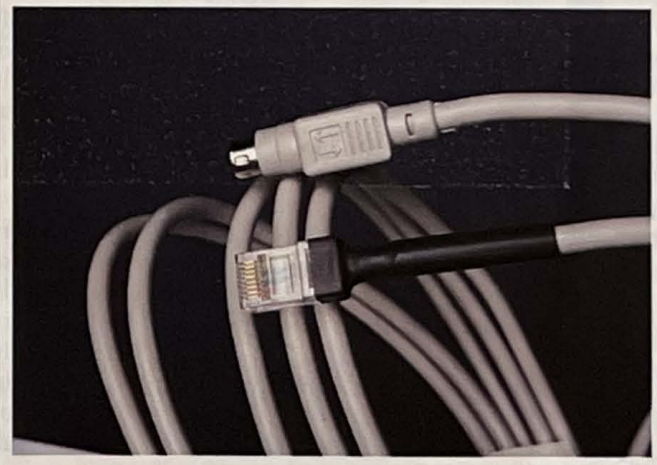

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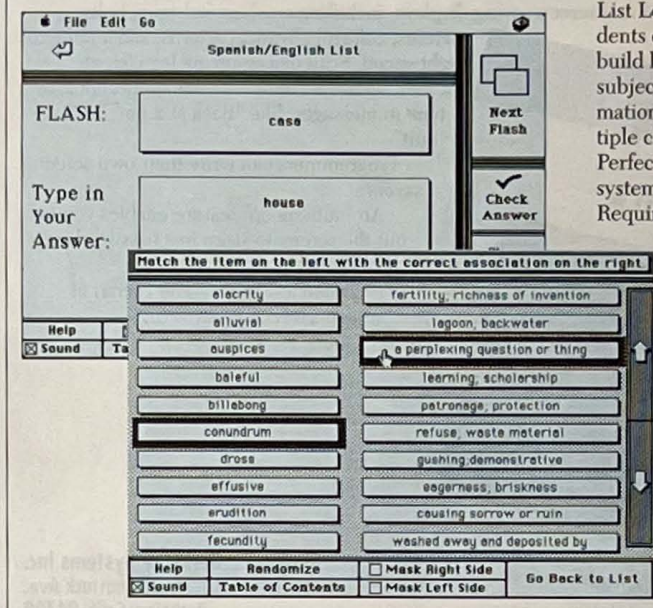
List Learner



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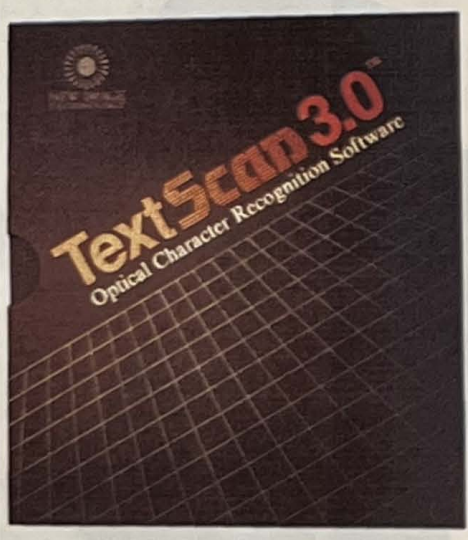

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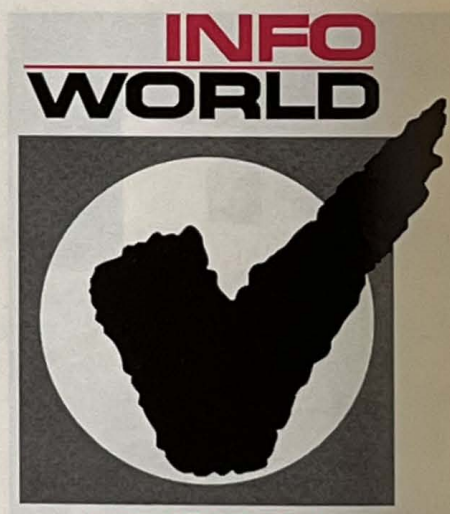

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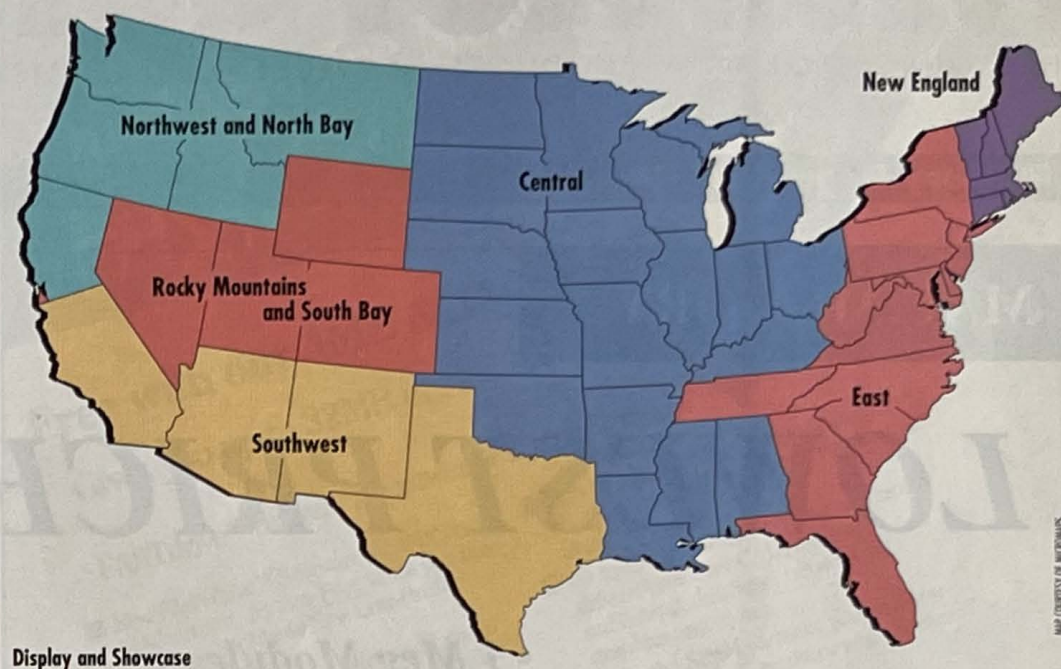
Jan. 30	GA	Jan. 19
Feb. 6	Scanners	Jan. 26
Feb.13	Gateways, Monitors	Feb. 2
Feb. 20	Portable software	Feb. 9
Feb.27	GA	Feb. 16
Mar. 6	GA, E-mail	Feb. 23

MacWEEK sales offices



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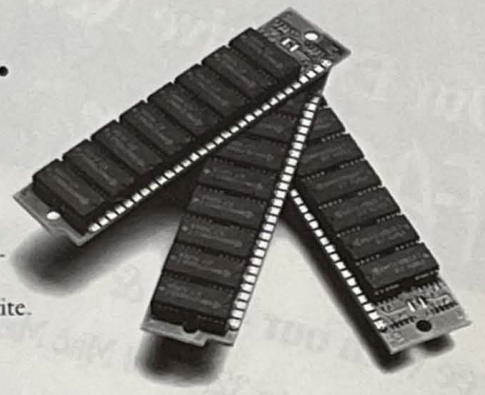

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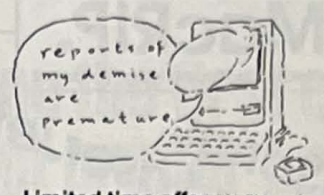

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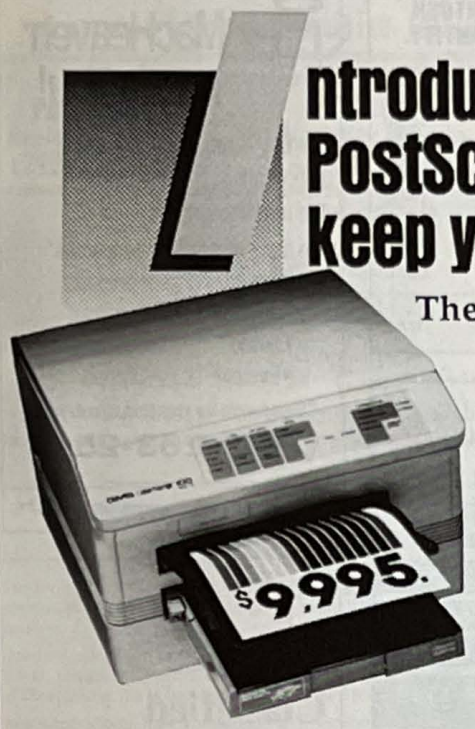

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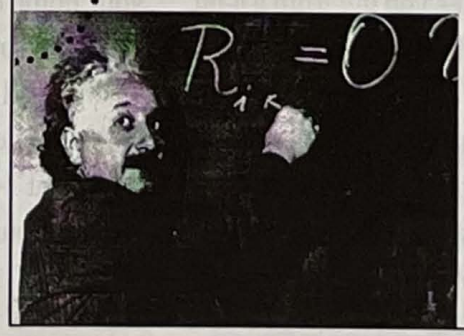

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Mac CAD: Overcoming a bad image

QuickCAD, faster CPUs boost Apple

By Rochelle Garner

Following through on its push into the technical and scientific market, Apple spent the past several years convincing three of the big CAD software developers — Autodesk, Schlumberger and Intergraph — that they belong on the Macintosh.

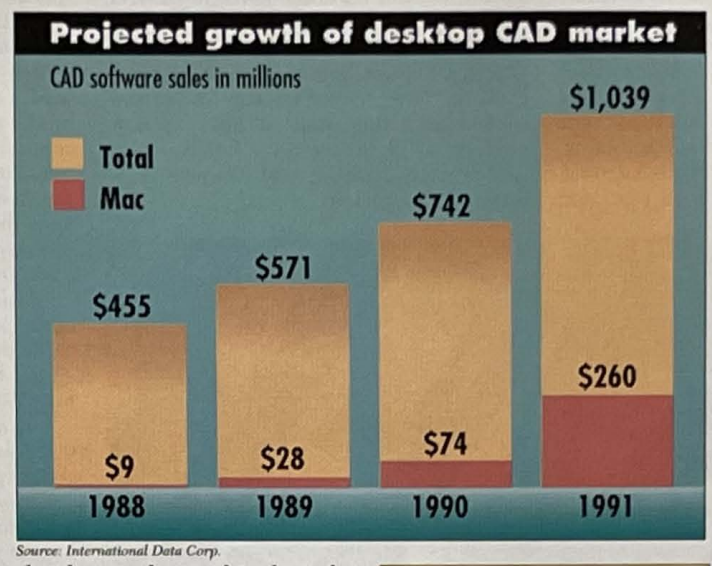
Now it just has to convince everyone else in the industry that the Macintosh belongs in CAD.

Apple remains far behind the IBM PC-compatible and workstation vendors that dominate the CAD market. That may soon change, though, as Apple adds higher-performance models to its line and third parties like Radius bring out add-ons that address some of the Mac's deficiencies (see related story at right).

"CAD users want leading-edge performance," said Bruce Jenkins, vice president of Daratech Inc., a CAD/CAM/CAE market research firm in Cambridge, Mass. "These are people for whom Apple's strengths, like an easy-to-use interface, are not important draws."

"Everyone agrees that the Mac needs better performance," said Kathey Hale, CAD market analyst at Dataquest, a market research firm in San Jose, Calif. "CAD will use up a 32-bit microprocessor."

Apple is quick to cite numbers from Dataquest to prove that it has already gained ground in the technical and scientific markets. According to the market research company, Apple was second in units shipped in the 1988 personal CAD hardware market, supplying about 35,000 of the more than 241,000 units sold worldwide. Compaq ranked first with 48,000 units.

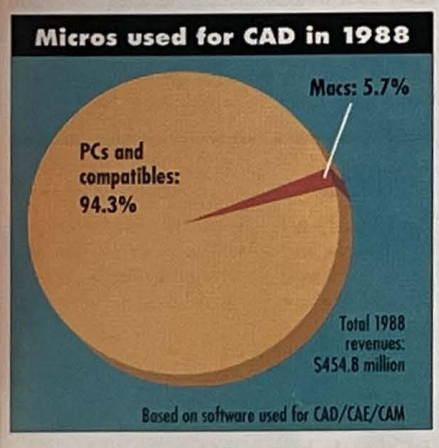


Source: International Data Corp.

But other estimates paint a different picture. Studies from International Data Corp. of Framingham, Mass., show Mac software with a mere 5.7 percent share of the microcomputer CAD market.

In terms of revenue share, Dataquest said, Apple's $132 million accounted for 10.8 percent of the worldwide $1.22 billion personal CAD hardware market, placing it third behind Compaq and IBM.

The difference between Apple's high ranking in unit sales and its revenue share can be attributed largely to the fact that most of the Mac CAD software on the market in 1988 addressed the low end by CAD standards and did not require the high-priced hardware many CAD professionals demand.


Micros used for CAD in 1988
Macs: 5.7%
PCs and compatibles: 94.3%
Total 1988 revenues: $454.8 million
Based on software used for CAD/CAE/CAM

"Our goal is not to target the 10 percent of heads-down CAD users who only care about speed and for whom ease of use and training aren't issues," said Dave Kulbarsh, marketing manager for

See CAD, next page

Vendors eye QuickCAD

When Radius Inc. introduced its QuickCAD display-list accelerator, it set out to address an obstacle facing both vendors considering bringing their CAD software to the Mac and CAD users weighing a move to the Apple platform: the Mac's slow screen redraw performance with vector-based CAD applications.

Sausalito, Calif.-based Autodesk's AutoCAD, for example, is 30 times slower on the Mac than on DOS platforms with display-list graphics processors.

The reason for the Mac's slowness is QuickDraw, the Apple imaging routines that control the Mac screen. QuickDraw contains no vector routines traditionally used by vendors on other platforms to achieve the precision needed for CAD. And writing an application that provides precision yet takes advantage of QuickDraw for fast redrawing is a difficult process. MicroStation Mac from Huntsville, Ala.-based Intergraph and Claris CAD from Claris Corp. of Santa Clara, Calif., are among the few CAD applications to take full advantage of QuickDraw.

Ironically, that fact prevents those products from deriving any benefit from QuickCAD. But users of vector-based applications ported to the Mac, such as AutoCAD and VersaCAD from Versacad Corp. of Huntington Beach, Calif., may find that the Radius board easily justifies its $1,495 price tag.

"Speed is crucial, and if it takes me five minutes for a redraw I'm out of business," said Michael Steele, vice president of CAD Solutions Inc., a value-added reseller in San Jose, Calif.

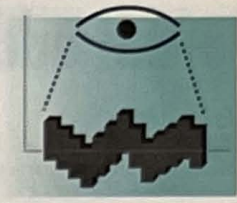
See QuickCAD, next page

Apple sets up teaching consortium

Dallas — Apple's Southern Operations Group last month announced the Christopher Columbus Consortium, a program joining faculty and students at six teaching colleges with K-12 schools to develop curricula and explore ways that computer technology can improve instruction and classroom management.

Apple will donate more than $2 million in equipment to the consortium. In addition, each school will purchase 10 Macs of any type for every 10 Mac IIs that Apple donates. About 20 Macs will end up at each college, and about 34 Macs will be installed at each K-12 school.

The participating schools are located in Dallas; Ft. Worth, Texas; Athens, Ga.; Nashville, Tenn.; Austin, Texas; Tallahassee, Fla.; and Raleigh, N.C. □



Business BRIEFS

Odesta brings David Rubin on board to fill new CEO position

Northbrook, Ill. — Odesta Corp. last week broadened its management base with the addition of David Rubin, a veteran of consumer and financial markets, as the company's new CEO. Rubin's appointment marks the first time the 7-year-old supplier of database and publishing software has had such a position. Daniel Cheifetz, Odesta's founder and president, called the move "extremely valuable" to the company's future.

Rubin, former president of G.R.I. Corp., a Chicago-based consumer products marketer, has had extensive experience in strategic and financial planning, Cheifetz said. Before going to G.R.I., Rubin was executive vice president and chief operating officer for the Midwest Stock Exchange.

Odesta Corp. is the publisher of the Helix line of Mac and VAX databases; GeoQuery, a mapping program; Data Desk, a data analysis tool; and the Odesta Document Management System, a database publishing program for Macs and VAX platforms.

GEnie boosts number of cities with 2,400-bps dial-up access

Rockville, Md. — GE Information Services, the commercial teleprocessing network that hosts GEnie, AppleLink and a variety of other communications services, last week announced it will increase the number of U.S. cities where 2,400-bps dial-up access is available from 69 to 393 by the end of the year. With the expansion, GEIS said it will have more than 100 more 2,400-bps cities than its closest competitor.

GEIS also said it will expand its international 2,400-bps capabilities in the near future and expects to begin offering V.32 9,600-bps dial-up services early next year.

Select Micro Systems to merge with Strategic Mapping

San Jose, Calif. — Select Micro Systems Inc. of Yorktown, N.Y., developer of MapMaker 4.0 and other map-making software for the Macintosh, will merge on Jan. 1 with Strategic Mapping Inc., a pioneer in the same field on the IBM PC. The combined company will use the Strategic Mapping name.

Strategic Mapping, formerly Strategic Locations Planning, is the developer of the Atlas*Graphics software used by more than half the Fortune 500 companies. The company was the exclusive source of data and boundary files for use with MapMaker and has been a dealer for the Mac product since 1987.

Strategic Mapping Inc. is located at 4030 Moorpark Ave., Suite 250, San Jose, Calif. 95117; (408) 985-7400.

International CD-ROM Conference set for Feb. 27 in San Francisco

Stamford, Conn. — The fifth International CD-ROM Conference & Exposition, sponsored by Microsoft Corp. of Redmond, Wash., will be held Feb. 27 through March 1 at the San Francisco Hilton Hotel. The registration fee is $795 before Dec. 31 and $995 thereafter. Organizer Mark LoGiurato of the Cahners Exposition Group said he expects about 2,400 attendees this year — up from 1,900 last year — and 75 vendors.

For more information, contact Mark LoGiurato, Cahners Exposition Group, 999 Summer St., Stamford, Conn. 06905-0833; (203) 352-8224.

Hambrecht & Quist pumps $1.8 million equity funding into Ashlar

Sunnyvale, Calif. — In the wake of the release of its Vellum 2-D CAD package, Ashlar Inc. last week announced that it had received $1.8 million in equity funding from Hambrecht & Quist, its San Francisco-based venture capital firm. This second round of venture capital will be used for introductory marketing and sales activities. Ashlar received $2.2 million in January 1988 to start up the company.

Forum addresses computing future

By Daniel Farber

Burlingame, Calif. — Evolution rather than revolution will characterize the computer industry in the 1990s, according to industry titans speaking at The Personal Computer Outlook forum here last week, but voice and handwriting recognition and full-motion video will become common desktop features.

RISC (reduced instruction set computing) vs. CISC (complex instruction set computing) was a subject of debate at the forum, which was sponsored by the New York-based Technologic Partners newsletter and Merrill Lynch Capital Markets of New York. The consensus was that RISC will become more dominant in the '90s, first as the central processing unit of workstations and for coprocessing cards on personal computers using Intel and Motorola CPUs.

Mike Homer, director of product marketing at Apple USA, said that around 1993 an Apple machine may be able to run applications written for the Mac on other, faster processors, recompiling pieces of object code on the fly.

Multimedia was also a hot topic. Bryant Wilder, DSP operations manager at Motorola of Austin, Texas, termed multimedia "a vision without a schedule" and said that cost constraints had to be overcome before a low-cost, interactive audio-visual computer could become a reality. □

CAD

From previous page

Apple's Design and Drafting Group. "We're going after the 60 percent of technical users who use computers for design. Engineers don't do CAD; CAD is drafting. They want to do sketching and drawing, not dimensioning."

Many people seem to agree with Apple's market positioning. "There are two types of users," said Tomas Hernandez Jr., director of computer services at Kohn Pedersen Fox Associates, a 210-person architecture firm in New York. "One does production work all day. Then there's the casual user like the manager, executive or job captain. And you can't put a $30,000 system in the hands of a casual user.

"Besides," Hernandez said, "the majority of the people who have CAD packages won't get to the point in their lives where they use all the features of [Autodesk's] AutoCAD or MicroStation [from Intergraph]."

But not all observers and players in the CAD market are convinced that Apple's strategy makes sense. Traditionally, they point out, it is precisely the sophisticated users doing "heads-down CAD" who are the biggest spenders in the field.

According to industry observers, the question of whether the Mac will become a larger force in CAD hinges on one issue: speed.

So far, the Mac has fallen short in this area. With the new 68030-based Macs, however, overall system performance is "more than adequate" for computation tasks, according to Joel Orr, chairman of Orr Associates, part of the CAD/CAM Institute in Great Falls, Va. But raw power alone has not solved the problem.

"The true technical obstacle for the Mac is its comparatively slow on-screen repaint time when used with complex models that have floating-point coordinates," Orr said. "That's the price Apple has paid for total uniformity [with QuickDraw]."

In Orr's view, Radius' new QuickCAD board, which addresses that issue by offering display-list processing as a hardware adjunct, "should help sell higher-end Macs. It also will help attract vendors from other platforms that have been put off by the Mac's redraw performance."

"QuickCAD is already giving the Mac legitimacy as a serious CAD contender," said Bob Coan, president of U.S. CAD, one of the largest CAD value-added resellers in Southern California. "It makes the Mac perform as a Mac, and it gives AutoCAD a fighting chance." □

QuickCAD

From previous page

"QuickCAD gives nearly instantaneous pan and zooms, and it will save literally hours a day of work time. I am hoping QuickCAD will give the Mac a more equal footing [with DOS platforms]."

Some observers said better performance with AutoCAD could be a boon to Apple. "AutoCAD is the most popular CAD application, and an acceptably fast Mac version could truly help sell Macs," said Joel Orr, chairman of CAD consulting firm Orr Associates in Great Falls, Va. "AutoCAD software has acquired a degree of acceptability similar to that of IBM hardware. People can buy it without much argument."

QuickCAD is causing vendors to give the Mac a second look, according to Mike Hara, product marketing manager for CAD products at Radius of San Jose, Calif. "We heard from a lot of vendors that they would not port to the Mac because of its lack of vector-based performance. But now vendors that previously evaluated the Macintosh as limiting their products' performance view QuickCAD as something that eliminates a barrier." — *By Rochelle Garner*

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MarketWEEK

STOCKWATCH

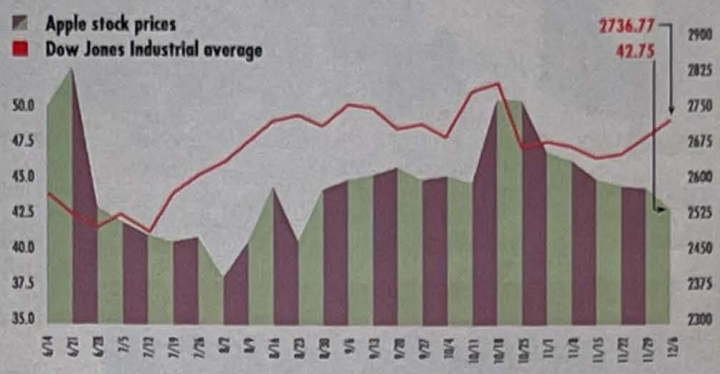
Estimates can be double-edged

Earnings estimates — you can't live with them, you can't live without them.

Apple could have lived without them last week, as Goldman Sachs cut its earnings estimates for the company, prompting a mild sell-off in the stock. As a result, Apple stock dropped 2.84 percent to $42.75 a share.

In contrast, 3Com said it expects its second-quarter earnings to exceed Wall Street estimates thanks to higher sales and orders. That announcement led to a 3.88 percent advance for 3Com, which took largest-percentage-gained honors in MacWEEK's portfolio.

Close behind 3Com stood QMS, which rose 3.53 percent to $11 a share on the strength of reports that it will see 48 percent to 50 percent higher earnings in fiscal 1990 as a result of higher sales, wider profit margins and lower costs in Europe.



Mac-related stocks

	CLOSING 11/29/89	CLOSING 12/6/89	PERCENT CHANGE	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES						
Adobe Systems Inc.	19.75	19.75	0.00	14	30.00	14.00
Aldus Corp.	14.13	14.00	-0.88	12	24.50	12.25
Apple	**44.00**	**42.75**	**-2.84**	**12**	**50.38**	**33.50**
Ashton-Tate Corp.	11.00	10.75	-2.27	-20	24.00	8.75
Businessland Inc.	9.88	9.50	-3.80	10	15.25	8.75
Microsoft Corp.	85.50	85.25	-0.29	26	89.25	45.75
Motorola Corp.	59.00	59.00	0.00	16	62.50	39.50
Seagate Technology	13.88	14.38	3.60	10	16.13	7.13
3Com Corp.	12.88	13.38	3.88	14	28.75	10.00
INDUSTRY INDICATORS						
Digital Equipment Corp.	85.75	86.75	1.17	11	122.38	83.50
IBM	97.75	98.63	0.90	10	130.88	96.00
Sun Microsystems Inc.	16.13	16.63	3.10	29	23.00	13.00

Compiled by Nordby International Inc., Boulder Creek, Calif.

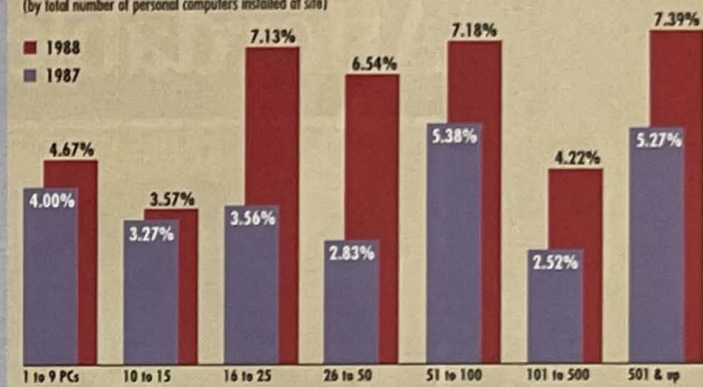
MARKETWATCH

Mac's share of installed base of personal computers grows

Any change in the huge installed base of personal computers comes slowly. But the Comtec Study, conducted by market research firm The Gartner Group of Stamford, Conn., shows substantial increases in the Mac's share of the installed base of personal computers in just one year.

In sites with one to nine microcomputers, the Mac's share rose from 4 percent in 1987 to 4.7 percent in 1988. At sites with 16 to 100 micros, the Mac's share reached about 7 percent of the installed base. At the largest sites, with more than 500 personal computers, the Mac's share reached 7.4 percent last year, up from 5.3 percent in 1987. — *By Griffin Dix*

Growth in the percentage of Macs among personal computers
(by total number of personal computers installed at site)



Source: Comtec Study, The Gartner Group, 1989

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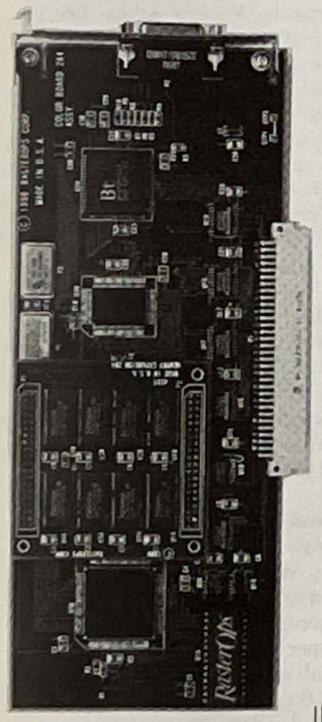

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MacWEEK Takes A Holiday

Don't hate us just because we're dutiful. But year end requires a break to adequately plan for a 1990 packed with the kinds of insightful MacWEEK news features you've come to rely on week after week.

So, enjoy the holiday. Catch up on your other reading. MacWEEK returns to your in box January 9.

Font truce rumors exposed

There is no doubt that 1989 is one for the record books. First, international communism collapses between over-the-counter pain-reliever commercials on the evening news, then rumors circulate that Apple has unilaterally ended what is sometimes referred to as the great font war. Although we've known all along that it wasn't really a war (real wars are better organized), at first glance it does appear to be a story big enough to knock both the Czechs and Cory Aquino off the front page.

The big rumor was that Apple had decided to include Adobe Type Manager in System 7.0. If in trade Adobe were to provide a Royal-to-PostScript translator and/or the ability to handle Royal fonts on Adobe interpreters, the cold war would be over. Unfortunately, everyone in a position to know heatedly denied the rumors, so users still face a muddled font future.

The advent of the new FDHD systems found Apple stuck with a fair number of outdated Mac IIs and SEs equipped with the old 800-Kbyte floppy drives. Apple has decided to kill two birds with one stone and sell the machines at drastically reduced prices to employees during the holiday season. Sales are limited to two CPUs, and unlike previous fire sales, employees are free to resell or even give away these Macs as they wish. The only stipulation is that they keep track of who is in possession of the machine for one year. How low is low? How about a dual-floppy SE for $839?

While there is no news of internal product promotions at Claris, the long dormant rumor of Claris-Informix negotiations reared its interesting little head once again last week. Although representatives from both companies refused to comment on the matter, the Knife keeps looking at the gaping spreadsheet hole in Claris' product line and wondering when and how it will be filled. The smart money says that just as Claris purchased word processing technology from Quark to use as the basis for MacWrite II, a similar deal is in the works for Wingz technology. Informix, meanwhile, is expected to give up on its losing battle with Excel in the end-user market and reposition its spreadsheet as a front end to host databases.

In another instance of Claris keeping up with the Microsofts of this world, the Knife hears that Claris is actively considering adding an electronic-mail gateway to a planned MacWrite II upgrade. The way the story is told, this would be a generic gateway that would allow MacWrite II to access all popular Mac E-mail products.

New year, new products. As usual, the new year will see a gaggle of new products struggle to attain (or retain) market share. The Knife reports that Ashton-Tate has put Full Impact 2.0 out to beta, and first impressions are very favorable. In addition to directly importing and exporting Excel-format files, the programming environment has been significantly enhanced. Any perceived deficiencies in the graphics department have also been addressed; sources say Full Impact 2.0 graphics will be equal to Wingz's. Ashton-Tate, too, is apparently planning to pitch the product as a database front end.

Pyro, Fifth Generation's popular screensaver utility, is undergoing a major rewrite designed to go head to head with some of its new competition, such as AfterDark. Pyro is beginning to look a little long in the tooth, but according to a Software Publishers Association survey, the program is the single most frequently pirated software on the market.

A quick log-in to the Twilight Clone BBS in the Washington, D.C., area revealed that Paul Cozza is working on SAM II. According to Paul's messages, the new version will include hooks for externals that will allow users to reconfigure SAM II on the fly, somewhat like Virus Detective. Look for a release by the end of February.

The name remains the same. In what some would call a sleight of hand, a well-known Mac software developer will go public soon without the benefit of a public offering. According to the Knife's sources, the developer will be either acquired by or merged with an existing shell company, which will then change its name to that of the original developer. □

While in the depths of the shopping frenzy we call the holiday season, don't forget to help keep the wheels of Mac the Knife turning. You will be promptly rewarded with a festive MacWEEK mug (not available in any store). Call the Knife at (415) 243-3500 or MCI (MactheKnife).

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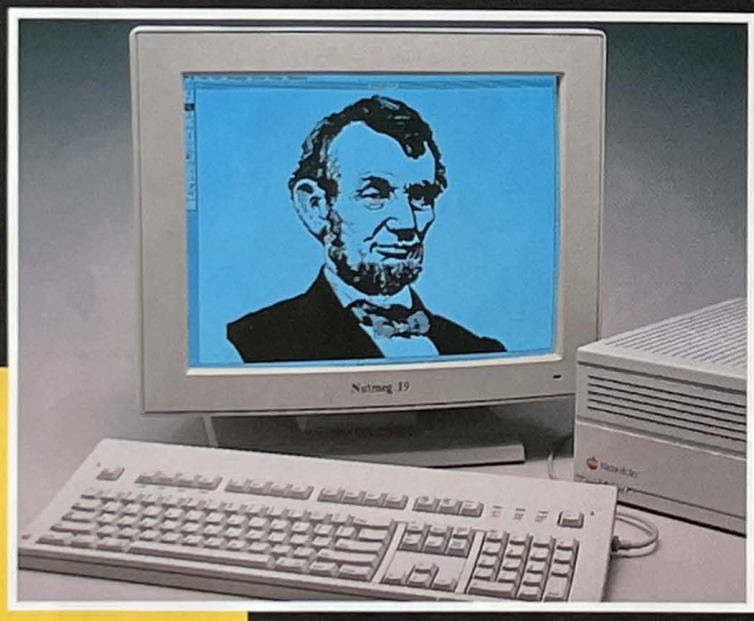

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Apple Portrait Display		✔	✔				
Apple Two-Page Monitor		✔	✔				
Apple 13" Color Monitor			✔	✔	✔	✔	✔
Trinitron® 19" Color Monitor			✔	✔	✔	✔	✔
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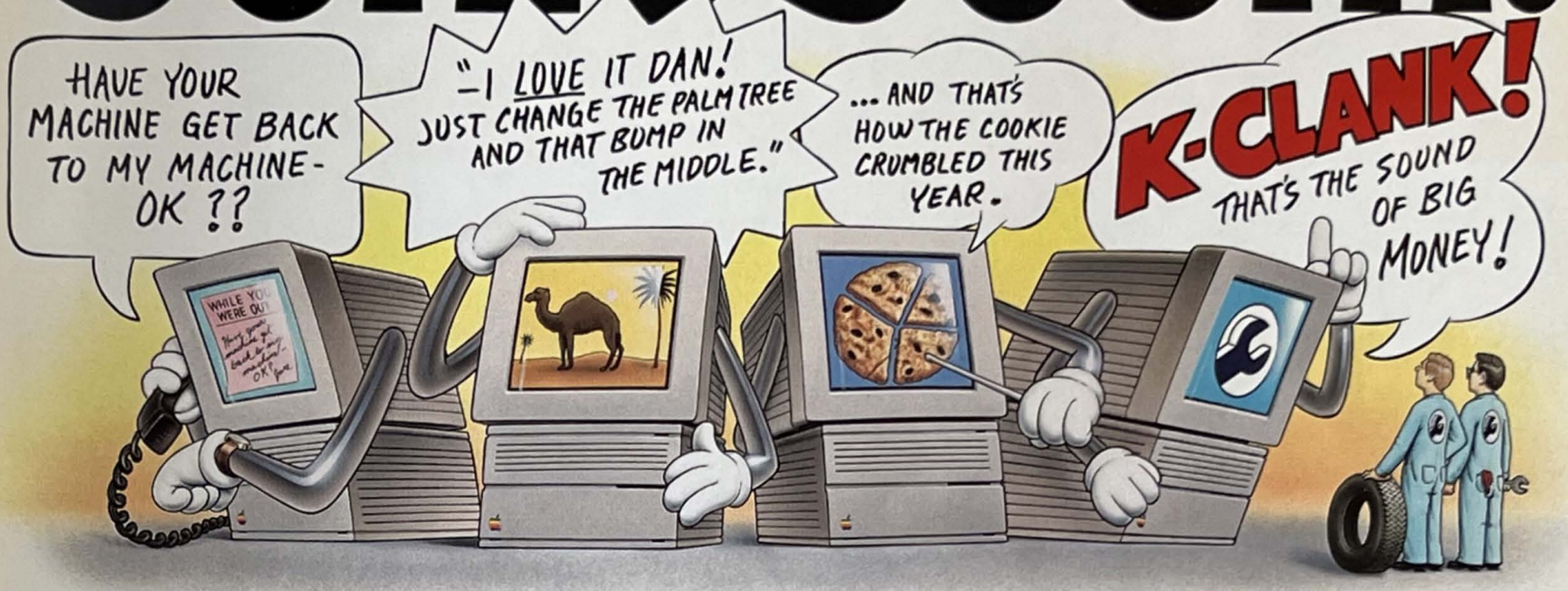
Sonic boom.


HAVE YOUR MACHINE GET BACK TO MY MACHINE- OK ??
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... AND THAT'S HOW THE COOKIE CRUMBLED THIS YEAR.
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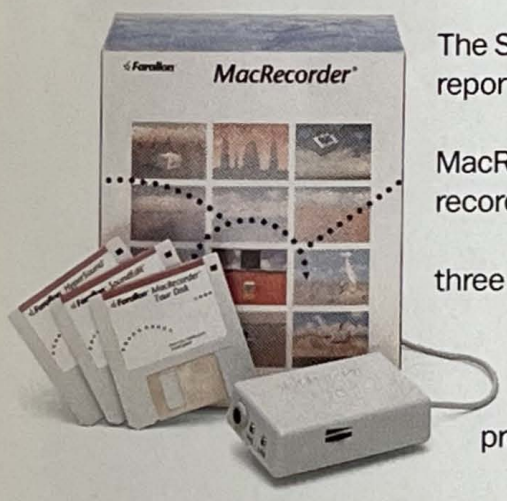

Suddenly, you can hear it. Jets roaring off the runway! Babies crying! Dogs howling! The Senator's voice backing your presentation with oratorical persuasion, "Based on this report, we should scrap airport expansion."

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